

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[OAR-2002-0074 - FRL-]

RIN 2060-AG57

**National Emission Standards for Hazardous Air Pollutants:
Surface Coating of Plastic Parts and Products**

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action promulgates national emission standards for hazardous air pollutants (NESHAP) for plastic parts and products surface coating operations located at major sources of hazardous air pollutants (HAP). The final rule implements section 112(d) of the Clean Air Act (CAA) by requiring these operations to meet HAP emission standards reflecting the application of the maximum achievable control technology (MACT). The final rule will protect air quality and promote the public health by reducing emissions of HAP from facilities in the plastic parts and products surface coating source category. The organic HAP emitted by these operations include methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), toluene, ethylene glycol monobutyl ether (EGBE) and other glycol ethers, and xylenes. Exposure to these

substances has been demonstrated to cause adverse health effects such as irritation of the lung, skin, and mucous membranes, and effects on the central nervous system, liver, and heart. In general, these findings have only been shown with concentrations higher than those typically in the ambient air. The final standards are expected to reduce nationwide organic HAP emissions from major sources in this source category by approximately 80 percent.

EFFECTIVE DATES: The final rule is effective [INSERT DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER]. The incorporation by reference of certain publications listed in the final rule is approved by the Director of the Federal Register as of [INSERT DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER].

ADDRESSES: Docket. Docket ID No. OAR-2002-0074 (formerly Docket No. A-99-12) is located at the EPA Docket Center, EPA West (6102T), 1301 Constitution Avenue, NW., Room B-102, Washington, DC 20460.

Background Information Document. A background information document (BID) for the promulgated NESHAP may be obtained from the docket; the U.S. EPA Library (C267-01), Research Triangle Park, NC 27711, telephone (919)

541-2777; or from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, telephone (703) 487-4650. Refer to "National Emission Standards for Hazardous Air Pollutants (NESHAP): Surface Coating of Plastic Parts and Products-Summary of Public Comments and Responses on Proposed Rule" (EPA-453/R-03-007).

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SUPPLEMENTARY INFORMATION: Regulated Entities. The source category definition includes facilities that apply coatings to plastic parts and products. In general, facilities that coat plastic parts and products are covered under the North American Industrial Classification System (NAICS) codes listed in Table 1. However, facilities classified under other NAICS codes may be subject to the final standards if they meet the applicability criteria. Not all facilities classified under the NAICS codes in the following table will be subject to the final standards because some of the

classifications cover products outside the scope of the NESHAP for plastic parts and products.

Table 1. Categories and Entities Potentially Regulated by the Final Rule

Category	NAICS	Examples of potentially regulated entities
Industrial	337214	Office furniture, except wood.
	32614, 32615	Plastic foam products (e.g., pool floats, wrestling mats, life jackets).
	326199	Plastic products not elsewhere classified (e.g., name plates, coin holders, storage boxes, license plate housings, cosmetic caps, cup holders).
	333313	Office machines.
	33422	Radio and television broadcasting and communications equipment (e.g., cellular telephones).
	336211	Motor Vehicle Body Manufacturing.
	336399	Motor vehicle parts and accessories.
	336212	Truck Trailer Manufacturing.
	336213	Motor Home Manufacturing.
	336214	Travel Trailer and Camper Manufacturing.
	336999	Transportation equipment not elsewhere classified (e.g., snowmobile hoods, running boards, tractor body panels, personal watercraft parts).

	339111 , 339112	Medical equipment and supplies.
	33992	Sporting and athletic goods.
	33995	Signs and advertising specialties.
	339999	Manufacturing industries not elsewhere classified (e.g., bezels, consoles, panels, lenses).
Federal, State, and Local Governments		Government owned or operated facilities that perform plastic parts and products surface coating.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine whether your coating operation is regulated by this action, you should examine the applicability criteria in §63.4481 of the final rule.

Docket. The EPA has established an official public docket for this action under Docket ID No. OAR-2002-0074 (formerly docket No. A-99-12). The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. Although a part of the official docket, the public docket does not include Confidential Business Information or other information

whose disclosure is restricted by statute. The official public docket is the collection of materials that is available for public viewing at the EPA Docket Center, EPA West, Room B-102, 1301 Constitution Avenue, NW, Washington, DC 20460. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1744, and the telephone number for the Docket is (202) 566-1742. A reasonable fee may be charged for copying docket materials.

Electronic Docket Access. You may access this Federal Register document electronically through the EPA Internet under the "Federal Register" listings at <http://www.epa.gov/fedrgstr>.

An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at <http://www.epa.gov/edocket/> to view public comments, access the index listing of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Although not all docket materials may be available

electronically, you may still access any of the publicly available docket materials through the docket facility identified above. Once in the system, select "search," then key in the appropriate docket identification number. WorldWide Web (WWW). In addition to being available in the docket, an electronic copy of the final rule will be available on the WWW. Following the Administrator's signature, a copy of the final rule will be posted at <http://www.epa.gov/ttn/oarpg> on EPA's Technology Transfer Network (TTN) policy and guidance page for newly proposed or promulgated rules. The TTN provides information and technology exchange in various areas of air pollution control. If more information regarding the TTN is needed, call the TTN HELP line at (919) 541-5384.

Judicial Review. Under section 307(b)(1) of the CAA, judicial review of the final rule is available only by the filing of a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION OF FINAL RULE IN THE FEDERAL REGISTER]. Under section 307(d)(7)(B) of the CAA, only an objection to the rule that was raised with reasonable specificity during the period for public comment can be raised during judicial review. Under

section 307(b)(2) of the CAA, the requirements established by the final rule may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce these requirements.

Outline: The following outline is provided to aid in reading the preamble to the final rule:

- I. Background
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 - H. Executive Order 13211: Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use
 - I. National Technology Transfer and Advancement Act
 - J. Congressional Review Act

I. Background

- A. What is the source of authority for development of NESHAP?

Section 112 of the CAA requires us to list categories and subcategories of major sources and area sources of HAP and to establish NESHAP for the listed source categories and subcategories. The Plastic Parts and Products (Surface Coating) category of major sources was listed on July 16, 1992 (57 FR 31576) under the

Surface Coating Processes industry group. Major sources of HAP are those that emit or have the potential to emit considering controls equal to or greater than 9.1 megagrams per year (Mg/yr) (10 tons per year (tpy)) of any one HAP or 22.7 Mg/yr (25 tpy) of any combination of HAP.

B. What criteria are used in the development of NESHAP?

Section 112(c)(2) of the CAA requires that we establish NESHAP for the control of HAP from both new and existing major sources, based upon the criteria set out in section 112(d). The CAA requires the NESHAP to reflect the maximum degree of reduction in emissions of HAP that is achievable, taking into consideration the cost of achieving the emission reduction, any non-air quality health and environmental impacts, and energy requirements. This level of control is commonly referred to as MACT.

The MACT floor is the minimum control level allowed for NESHAP and is defined under section 112(d)(3) of the CAA. In essence, the MACT floor ensures that the standard is set at a level that assures that all major sources achieve the level of control at least as stringent as that already achieved by the better-

controlled and lower-emitting sources in each source category or subcategory. For new sources, the MACT floor cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than standards for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources).

In developing the final NESHAP, we considered control options that are more stringent than the MACT floor, taking into account consideration of the cost of achieving the emission reduction, any non-air quality health and environmental impacts, and energy requirements. In the final rule, EPA is promulgating standards for both existing and new sources consistent with these statutory requirements.

C. What are the primary sources of emissions and what are the emissions?

The final NESHAP regulate emissions of organic HAP. Available emission data collected during the development

of the final NESHAP show that the primary organic HAP emitted from the surface coating of plastic parts and products operations include MEK, MIBK, toluene, and xylenes. These compounds account for over 85 percent of this category's nationwide organic HAP emissions. Other organic HAP emissions identified include EGBE and other glycol ethers.

The majority of organic HAP emissions from a facility engaged in plastic parts and products surface coating operations can be attributed to the application, drying, and curing of coatings. The remaining emissions are primarily from cleaning operations. In most cases, organic HAP emissions from mixing, storage, and waste handling are relatively small.

The organic HAP emissions associated with coatings (the term "coatings" includes protective and decorative coatings as well as adhesives) occur at several points. Coatings are most often applied either by using a spray gun in a spray booth or by dipping the substrate in a tank containing the coating. In a spray booth, volatile components evaporate from the coating as it is applied to the part and from the overspray. The coated part then passes through an open (flash-off) area where additional

volatiles evaporate from the coating. Finally, the coated part passes through a drying/curing oven, or is allowed to air dry, where the remaining volatiles are evaporated.

Organic HAP emissions also occur from the activities undertaken during cleaning operations where solvent is used to remove coating residue or other unwanted materials. Cleaning in this industry includes cleaning of spray guns and transfer lines (e.g., tubing or piping), tanks, and the interior of spray booths. Cleaning also includes applying solvents to manufactured parts prior to coating application and to equipment (e.g., cleaning rollers, pumps, conveyors, etc.).

Mixing and storage are other sources of emissions. Organic HAP emissions can occur from displacement of organic vapor-laden air in containers used to store organic HAP solvents or to mix coatings containing organic HAP solvents. The displacement of vapor-laden air can occur during the filling of containers and can be caused by changes in temperature or barometric pressure, or by agitation during mixing.

D. What are the health effects associated with organic HAP emissions from the surface coating of plastic parts

and products?

The HAP to be controlled with the final rule are associated with a variety of adverse health effects. These adverse health effects include chronic health disorders (e.g., birth defects and effects on the central nervous system, liver, and heart), and acute health disorders (e.g., irritation of the lung, skin, and mucous membranes, and effects on the central nervous system).

We do not have the type of current detailed data on each of the facilities covered by these emission standards for this source category, and the people living around the facilities, that would be necessary to conduct an analysis to determine the actual population exposures to the organic HAP emitted from these facilities and potential for resultant health effects. Therefore, we do not know the extent to which the adverse health effects described above occur in the populations surrounding these facilities. However, to the extent the adverse effects do occur, the final rule will reduce emissions and subsequent exposures.

II. Summary of the Final Rule

A. What source categories and subcategories are affected by the final rule?

The final rule applies to you if you own or operate a plastic parts and products surface coating facility that is a major source, or is located at a major source, or is part of a major source of HAP emissions. We define a plastic parts and products surface coating facility as any facility engaged in the surface coating of any plastic part or product. If application of coating to a substrate occurs, then surface coating also includes associated activities, such as surface preparation, cleaning, mixing, and storage. However, these associated activities do not comprise surface coating if the application of coating does not occur. Coating application with handheld, non-refillable aerosol containers, touch-up markers, marking pens, or the application of paper film or plastic film which may be pre-coated with an adhesive by the manufacturer is not a coating operation for the purposes of the final rule.

You will not be subject to the final rule if your plastic parts and products surface coating facility is located at an area source. An area source of HAP is any facility that has the potential to emit HAP but is not a major source. You may establish area source status by limiting the source's potential to emit HAP through

appropriate mechanisms available through your permitting authority.

The final rule does not apply to surface coating or a coating operation that meets any of the criteria listed below:

- A coating operation conducted at a source where the source uses only coatings, thinners and/or other additives, and cleaning materials that contain no organic HAP, as determined according to the procedures in the final rule.
- Surface coating that occurs at research or laboratory facilities, or is part of janitorial, building, and facility maintenance operations, or that occurs at hobby shops operated for noncommercial purposes.
- Surface coating of plastic performed on-site at installations owned or operated by the Armed Forces of the United States (including the Coast Guard and the National Guard of any such State) or the National Aeronautics and Space Administration (NASA), or the surface coating of military munitions manufactured by or for the Armed Forces of the United States (including the Coast Guard and the

National Guard of any such State).

- Surface coating where plastic is extruded onto plastic parts or products to form a coating.
- Surface coating of magnet wire.
- In-mold coating or gel coating operations in manufacturing of reinforced plastic composites that meet the applicability criteria of the Reinforced Plastic Composites Production NESHAP (40 CFR part 63, subpart WWWW, 68 FR 19375, April 21, 2003).
- Surface coating of plastic components of wood furniture that meet the applicability criteria for Wood Furniture Manufacturing NESHAP (40 CFR part 63, subpart JJ).
- Surface coating of plastic components of large appliances that meet the applicability criteria for large appliance surface coating (40 CFR part 63, subpart NNNN).
- Surface coating of plastic components of metal furniture that meet the applicability criteria for Metal Furniture Surface Coating NESHAP (40 CFR part 63, subpart RRRR; 68 FR 28606, May 23, 2003).
- Surface coating of plastic components of wood building products that meet the applicability

criteria for Wood Building Products Surface Coating NESHAP (40 CFR part 63, subpart QQQQ; 68 FR 31746, May 28, 2003).

- Surface coating of plastic components of aerospace vehicles that meet the applicability criteria for Aerospace Manufacturing and Rework NESHAP (40 CFR part 63, subpart GG).
- The application of specialty coatings defined in appendix A to 40 CFR part 63, subpart GG to a plastic aerospace vehicle or component.
- Surface coating of plastic components of ships that meet the applicability criteria for Shipbuilding and Ship Repair NESHAP (40 CFR part 63, subpart II).
- Surface coating of plastic using a web coating process that meets the applicability criteria for Paper and Other Web Coating NESHAP (40 CFR part 63, subpart JJJJ).
- Surface coating of fiberglass boats or parts of fiberglass boats (including, but not limited to, the use of assembly adhesives) where the facility meets the applicability criteria for Boat Manufacturing NESHAP (40 CFR part 63, subpart VVVV), except where the surface coating of the boat is a post-mold

coating operation performed on personal watercraft or parts of personal watercraft.

- Surface coating of plastic components of automobiles and light-duty trucks that meet the applicability criteria for Automobiles and Light-Duty Trucks Surface Coating NESHAP (40 CFR part 63, subpart IIII (under development)).

If you perform surface coating of plastic parts or products that meet the applicability criteria for both the Automobiles and Light-Duty Trucks NESHAP (40 CFR part 63, subpart IIII (under development)) and these NESHAP, then you may comply with the requirements of the Automobiles and Light-Duty Trucks NESHAP for the surface coating of all your plastic parts used in automobile or light-duty truck manufacturing in lieu of complying with each subpart separately.

The final rule contains four subcategories: general use coating, thermoplastic olefin (TPO) coating, automotive lamp coating, and assembled on-road vehicle coating. The general use subcategory includes all surface coating operations in the plastic parts and products source category that are not included in the other four subcategories. This includes operations that

coat a wide variety of substrates, surfaces, and types of plastic parts, as well as more specialized coating scenarios. The TPO subcategory encompasses all materials used in the surface coating of TPO substrates for automotive applications. The TPO subcategory requires the use of solvents to facilitate proper adhesion of coatings. The automotive lamp subcategory addresses the unique requirements for surface coating of exterior automotive lamps (e.g., headlamps, tail lamps, etc.). Automotive lamps are subject to regulatory requirements established by the National Highway Traffic Safety Administration resulting in the use of specific coatings to achieve required performance specifications. The assembled on-road vehicle subcategory addresses surface coating of fully-assembled vehicles that are physically larger than the other plastic parts and products coated in this source category and that may contain heat-sensitive parts. The large size and presence of heat-sensitive parts make certain lower-HAP technologies, such as heat-cured waterborne coatings, infeasible for assembled on-road vehicles. The assembled on-road vehicle subcategory will affect primarily recreational vehicle manufacture and automobile body refinishing.

Each subcategory consists of all coating operations, including associated surface preparation, equipment cleaning, mixing, storage, and waste handling.

B. What is the relationship to other rules?

The new source performance standards (NSPS) that could potentially apply to sources also subject to the final rule are the Standards of Performance for Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines (40 CFR part 60, subpart TTT). The NSPS apply to facilities that apply coatings to plastic parts for use in business machines if the facility began construction, reconstruction, or modification after January 8, 1986. The pollutants regulated are volatile organic compounds. Because of the differences between the NSPS and the NESHAP, compliance with either rule cannot be deemed compliance with the other. A plastic parts and products surface coating operation that meets the applicability requirements of both the NSPS and the NESHAP must comply with both.

Affected sources that meet the applicability criteria in the final plastic parts and products rule may also meet the applicability criteria of other coating NESHAP. For example, some facilities that coat plastic

and metal parts using the same or different coatings, coating application processes, and conveyance equipment, either simultaneously or at alternative times could be subject to both the Plastic Parts and Products Surface Coating NESHAP and the Miscellaneous Metal Parts and Products Surface Coating NESHAP (40 CFR part 63, subpart MMMM).

In the final rule, we have minimized the burden of complying with multiple surface coating emission limits by offering two alternatives to complying separately with each applicable emission limit. The first alternative allows a facility to have all applicable surface coating operations comply with the emission limit that represents the predominant type of coating activity at that facility. Predominant activity means the coating activity that represents 90 percent or more of the surface coating activities at a facility. For example, if a facility is subject to both the Plastic Parts and Miscellaneous Metal Parts NESHAP and the activities subject to the Miscellaneous Metal Parts NESHAP account for 90 percent or more of the surface coating activity at the facility, then the facility may comply with the emission limitations for miscellaneous metal parts and

products for both types of surface coating operations.

The predominant activity alternative may be applied if 90 percent or more of the surface coating is in the general use or TPO coating subcategory; however, this alternative is not available where assembled on-road vehicle, or automotive lamp coating represents the predominant activity. The emission limits for those two subcategories reflect specialized performance requirements and the need for higher-HAP-containing materials. It would not be appropriate to apply emission limits specifically developed for unique performance characteristics to other types of coatings.

You must include all surface coating activities that meet the applicability criteria of a subcategory in a surface coating NESHAP and constitute more than 1 percent of total coating activities. Coating activities that meet the applicability criteria of a subcategory in a surface coating NESHAP but comprise less than 1 percent of total coating activities need not be included in the determination of predominant activity but they must be included in the compliance calculations.

The second alternative allows a facility to calculate and comply with a facility-specific emission

limit for each 12-month rolling average compliance period. The facility would use the relative amount of coating activity subject to each emission limit in each NESHAP to calculate a weighted, or composite, emission limit for that facility. Compliance with that facility-specific emission limit for all surface coating activities included in the facility-specific emission limit constitutes compliance with the emission limits in the Plastic Parts NESHAP, as well as other applicable NESHAP.

As with the predominant activity alternative, you must include all surface coating activities that meet the applicability criteria of a subcategory in a surface coating NESHAP and constitute more than 1 percent of total coating activities. Coating activities that meet the applicability criteria of a subcategory in a surface coating NESHAP but comprise less than 1 percent of total coating activities need not be included in the facility-specific emission limit calculation, but they must be included in the compliance calculations.

C. What is the affected source?

We define an affected source as a stationary source, a group of stationary sources, or part of a stationary

source to which a specific emission standard applies.

The final rule defines the affected source as the collection of all operations associated with the surface coating of plastic parts and products within each of the four subcategories (TPO, automotive lamps, assembled on-road vehicle, and general use). If application to a substrate occurs, these operations include preparation of a coating for application (e.g., mixing with thinners and/or other additives); surface preparation of the plastic parts and products (including the use of a cleaning material to remove dried coating); coating application and flash-off; drying and/or curing of applied coatings; cleaning of equipment used in surface coating; storage of coatings, thinners and/or other additives, and cleaning materials; and handling and conveyance of waste materials from the surface coating operations. The coating operation does not include the application of coatings using hand-held nonrefillable aerosol containers, touch-up markers, marking pens, or the application of paper film or plastic film that may be pre-coated with an adhesive by the manufacturer.

D. What are the emission limits, operating limits, and other standards?

Emission Limits. We are limiting organic HAP emissions from each existing affected source using the emission limits in Table 2 of this preamble. For each new or reconstructed affected source, the final emission limits are given in Table 3 of this preamble. For each of the subcategories, the emission limit is expressed as the mass of organic HAP emissions per mass of coating solids used during each 12-month compliance period.

Table 2. Emission Limits for Existing Affected Sources

For any affected source applying coating to...	The organic HAP emission limit you must meet, in kilograms (kg) organic HAP emitted/kg coating solids used. (Same number applies to lb organic HAP emitted/lb coating solids used).
TPO substrates	0.26
automotive lamps	0.45
assembled on-road vehicles	1.34
other (general use) plastic parts and products	0.16

Table 3. Emission Limits for New or Reconstructed Affected Sources

For any affected source applying coating to...	The organic HAP emission limit you must meet, in kg organic HAP emitted/kg coating solids used (Same number applies to lb organic HAP emitted/lb coating solids used).
TPO substrates	0.22

automotive lamps	0.26
assembled on-road vehicles	1.34
other (general use) plastic parts and products	0.16

You may choose from several compliance options in the final rule to achieve the emission limits. You could comply by applying materials (coatings, thinners and/or other additives, and cleaning materials) that meet the emission limits, either individually or collectively, during each compliance period. You could also use a capture system and add-on control device to meet the emission limits. You could also comply by using a combination of both approaches.

Operating Limits. If you reduce emissions by using a capture system and add-on control device (other than a solvent recovery system for which you conduct a liquid-liquid material balance), the operating limits apply to you. These limits are site-specific parameter limits that you determine during the initial performance test of the system. For capture systems that are not permanent total enclosures, you establish average volumetric flow rates or duct static pressure limits for each capture device (or enclosure) in each capture system. For

capture systems that are permanent total enclosures, you establish limits on average facial velocity or pressure drop across openings in the enclosure.

For thermal oxidizers, you monitor the combustion temperature. For catalytic oxidizers, you monitor the temperature immediately before and after the catalyst bed, or you monitor the temperature before or after the catalyst bed and implement a site-specific inspection and maintenance plan for the catalytic oxidizer. For regenerative carbon adsorbers for which you do not conduct a liquid-liquid material balance, you monitor the carbon bed temperature and the amount of steam or nitrogen used to desorb the bed. For condensers, you monitor the outlet gas temperature from the condenser. For concentrators, you monitor the temperature of the desorption gas stream and the pressure drop across the concentrator.

The site-specific parameter limits that you establish must reflect operation of the capture system and control devices during a performance test that demonstrates achievement of the emission limits during representative operating conditions.

Work Practice Standards. If you use an emission

capture system and control device for compliance, you must develop and implement a work practice plan to minimize organic HAP emissions from mixing operations; storage tanks and other containers; and handling operations for coatings, thinners and/or other additives, cleaning materials, and waste materials. If your affected source has an existing documented plan that incorporates steps taken to minimize emissions from the aforementioned sources, you may be able to use your existing plan to satisfy the requirement for a work practice plan.

If you use a capture system and control device for compliance, you are required to develop and operate according to a startup, shutdown, and malfunction plan (SSMP) during periods of startup, shutdown, or malfunction of the capture system and control device.

The NESHAP General Provisions (40 CFR part 63, subpart A) codify certain procedures and criteria for all 40 CFR part 63 NESHAP and apply to you as indicated in the final rule. The General Provisions contain administrative procedures, preconstruction review procedures for new sources, and procedures for conducting compliance-related activities such as notifications,

reporting and recordkeeping, performance testing, and monitoring. The final rule refers to individual sections of the General Provisions to emphasize key sections that are relevant. However, unless specifically overridden in the final rule, all of the applicable General Provisions requirements apply to you.

E. What are the testing and initial compliance requirements?

Existing affected sources must be in compliance with the final rule no later than [INSERT DATE 3 YEARS AFTER DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER]. New and reconstructed sources must be in compliance upon initial startup of the affected source or by [INSERT DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER], whichever is later. However, affected sources are not required to demonstrate compliance until the end of the initial compliance period when they will have accumulated the necessary records to document the rolling 12-month organic HAP emission rate.

Compliance with the emission limits is based on a rolling 12-month organic HAP emission rate determined each month. Each 12-month period is a compliance period. The initial compliance period, therefore, is the 12-month

period beginning on the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period begins on the compliance date and extends through the end of that month plus the following 12 months. In other words, the initial compliance period could be almost 13 months long, but all subsequent compliance periods will be 12 months long. We have defined "month" as a calendar month or a pre-specified period of 28 to 35 days to allow for flexibility at sources where data are based on a business accounting period.

Being "in compliance" means that the owner or operator of the affected source meets the requirements to achieve the final emission limitations during the initial compliance period. However, they will not have accumulated the records for the rolling 12-month organic HAP emission rate until the end of the initial compliance period. At the end of the initial compliance period, the owner or operator uses the data and records generated to determine whether or not the affected source is in compliance with the organic HAP emission limit and other applicable requirements for that period. If the affected source does not meet the applicable limit and other

requirements, it is out of compliance for the entire compliance period.

Emission Limits. There are three options for complying with the final emission limits, and the testing and initial compliance requirements vary accordingly. You may choose to use one compliance option for the entire affected source, or you may use different compliance options for different coating operations within the affected source. You may also use different compliance options for the same coating operation at different times, different compliance options when different coatings are applied to the same part, or when the same coating is applied to different parts. However, you may not use different compliance options at the same time on the same coating operation.

Option 1: Compliant materials. This option is a pollution prevention option that allows you to easily demonstrate compliance by using low-HAP or non-HAP coatings and other materials. If you use coatings that, based on their organic HAP content, individually meet the kilogram (kg) (lb) organic HAP emitted per kg (lb) coating solids used levels in the applicable emission limits and you use non-HAP thinners and other additives

and cleaning materials, this compliance option is available to you. For this option, we have minimized recordkeeping and reporting requirements. You may demonstrate compliance by using manufacturer's formulation data and readily available purchase records to determine the organic HAP content of each coating or other material and the amount of each material used. You do not need to perform any detailed emission rate calculations.

If you demonstrate compliance based on the coatings and other materials used, you demonstrate that the organic HAP content of each coating meets the emission limits for the appropriate subcategory as shown in Tables 2 and 3 of this preamble, and that you used no organic HAP-containing thinners and/or other additives, or cleaning materials. For example, if you are using the compliant materials option and your existing source has TPO coating operations, automotive lamp coating operations, assembled on-road vehicle coating operations, and general use coating operations, you demonstrate that: (1) each coating used in the TPO coating operation has an organic HAP content no greater than 0.31 kg (0.51 lb) organic HAP emitted per kg (lb) coating solids used; (2)

each coating used in the automotive lamp coating operations has an organic HAP content no greater than 0.45 kg (0.45 lb) organic HAP emitted per kg (lb) coating solids used; (3) each coating used in the assembled on-road vehicle coating operations has an organic HAP content no greater than 1.34 kg (1.34 lb) organic HAP emitted per kg (lb) coating solids used; (4) each general use coating has an organic HAP content no greater than 0.16 kg (0.16 lb) organic HAP emitted per kg (lb) coating solids used; and (5) that you used no organic HAP-containing thinners and/or other additives, or cleaning materials. Note that "no organic HAP" is not intended to mean absolute zero. Materials that contain "no organic HAP" means materials that contain organic HAP levels below the levels specified in §63.4541(a) of the final rule, which are typical Occupational Safety and Health Administration (OSHA) reporting levels for material safety data sheets. These typical reporting levels only count organic HAP that are present at 0.1 percent or more by mass for OSHA-defined carcinogens and at 1.0 percent or more by mass for other compounds.

To determine the mass of organic HAP in coatings, thinners and/or other additives, and cleaning materials

and the mass fraction of coating solids, you may rely on manufacturer's formulation data. You are not required to perform tests or analysis of the material if formulation data are available. Alternatively, you could use results from the test methods listed below. You may also use alternative test methods provided you get EPA approval in accordance with the NESHAP General Provisions, 40 CFR 63.7(f). However, if there is any inconsistency between the test method results (either EPA's or an approved alternative) and manufacturer's data, the test method results prevail for compliance and enforcement purposes, unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

The following test methods are used to determine HAP content. For organic HAP content, use Method 311 of 40 CFR part 63, appendix A. You may also use nonaqueous volatile matter as a surrogate for organic HAP, which includes all organic HAP plus all other organic compounds, excluding water. If you choose this option, use Method 24 of 40 CFR part 60, appendix A. If you are determining HAP content for reactive adhesives (that is, adhesives in which some of the HAP react to form solids

and are not emitted to the atmosphere), you may use the alternative to Method 24 that is included in appendix A of the final rule. For determining mass fraction of coating solids, use Method 24.

Option 2: Compliance based on the emission rate without add-on controls. This option is a pollution prevention option that allows you to demonstrate compliance based on the organic HAP contained in the mix of coatings, thinners and/or other additives, and cleaning materials you use. This option offers the flexibility to use some individual coatings that do not, by themselves, meet the kg (lb) organic HAP emitted per kg (lb) coating solids used levels in the applicable emission limits if you use other low-HAP or non-HAP coatings such that overall emissions from the affected source over a 12-month period meet the emission limits. You must use this option if you use HAP-containing thinners and/or other additives, and cleaning materials and do not have add-on controls. You keep track of the mass of organic HAP in each coating, thinner or other additive, and cleaning material, and the amount of each material you use in your affected source each month of the compliance period. You use this information to

determine the total mass of organic HAP in all coatings, thinners and/or other additives, and cleaning materials divided by the total mass of coating solids used during the compliance period. You demonstrate that your emission rate (in kg (lb) organic HAP emitted per kg (lb) coating solids used) meets the applicable emission limit. You may use readily available purchase records and manufacturer's formulation data to determine the amount of each coating or other material you used and the organic HAP in each material. The final rule contains equations that show you how to perform the calculations to demonstrate compliance.

If you demonstrate compliance using Option 2, you are required to:

- Determine the quantity of each coating, thinner and/or other additive, and cleaning material used.
- Determine the mass of organic HAP in each coating, thinner and other additive, and cleaning material using the same types of data and methods previously described for Option 1, including the alternative methods for reactive coatings. You may rely on manufacturer's formulation data or you may choose to use test results as described under Option 1.

- Determine the mass fraction of coating solids for each coating using the same types of data or methods described under Option 1. In this option, you may include the solids from powder coatings in the compliance calculations.
- Calculate the total mass of organic HAP in all materials and total mass of coating solids used each month. You may subtract from the total mass of organic HAP the amount contained in waste materials you send to a hazardous waste treatment, storage, and disposal facility regulated under 40 CFR part 262, 264, 265, or 266.
- Calculate the total mass of organic HAP emissions and total mass of coating solids used for the initial compliance period by adding together all the monthly values for mass of organic HAP and for mass of coating solids used for the 12 months of the initial compliance period.
- Calculate the ratio of the total mass of organic HAP emitted for the materials used to the total mass of coating solids used (kg (lb) organic HAP emitted per kg (lb) of coating solids used) for the initial compliance period.

- Record the calculations and results and include them in your Notification of Compliance Status.

Note that if you choose to use this option for a particular coating operation rather than for all coating operations at the source, you calculate the organic HAP emission rate using just the materials used in that operation. Similarly, if your facility has multiple coating operations using this option (e.g., a TPO coating operation, an automotive lamp coating operation, an assembled on-road vehicle coating operation, and a general use coating operation), you do a separate calculation for each coating operation to show that each coating operation meets its emission limit. If you are complying with a facility-specific emission limit, you include all coating operations that are subject to the facility-specific emission limit in the compliance calculations.

Option 3: Compliance based on using a capture system and add-on controls device. This option allows sources to use a capture system and an add-on pollution control device, such as a combustion device or a recovery device, to meet the emission limits. While we believe that, based on typical emission characteristics, most

sources will not use control devices, we are providing this option for sources that use control devices. Fewer than 10 percent of the existing sources for which we have data use control devices. Under this option, testing is required to demonstrate the capture system and control device efficiencies. Alternatively, you may conduct a liquid-liquid material balance to demonstrate the amount of organic HAP collected by your recovery device. The final rule provides equations showing you how to use records of materials usage, organic HAP contents of each material, capture and control efficiencies, and coating solids content to calculate your emission rate during the compliance period.

If you demonstrate compliance based on this option, you demonstrate that your emission rate considering controls (in kg (lb) organic HAP emitted per kg (lb) of coating solids used) is less than the applicable emission limit. For a capture system and add-on control device, other than a solvent recovery system for which you conduct a liquid-liquid material balance, your testing and initial compliance requirements are as follows:

- Conduct an initial performance test to determine the capture and control efficiencies of the equipment

and to establish operating limits to be achieved on a continuous basis. The performance test must be completed no later than the compliance date for existing sources and 180 days after the compliance date for new and reconstructed sources.

- Calculate the mass of organic HAP in each coating and other material, and the mass fraction of coating solids for each coating used during each month of the initial compliance period.
- Calculate the total mass of organic HAP in all coatings and other materials, and total mass of coating solids used each month in the controlled operation or group of coating operations. You may subtract from the total mass of organic HAP the amount contained in waste materials you send to a hazardous waste treatment, storage, and disposal facility regulated under 40 CFR part 262, 264, 265, or 266.
- Calculate the organic HAP emissions from the controlled coating operations each month using the capture and control efficiencies determined during the performance test, and the total mass of organic HAP in materials used in controlled coating

operations that month.

- Calculate the total mass of organic HAP emissions and total mass of coating solids used for the initial compliance period by adding together all the monthly values for mass of organic HAP emissions and for mass of coating solids for the 12 months in the initial compliance period.
- Calculate the ratio of the total mass of organic HAP emissions to the total mass of coating solids used during the initial compliance period.
- Record the calculations and results and include them in your Notification of Compliance Status.
- Develop and implement a work practice plan to minimize emissions from storage, mixing, and handling of organic HAP-containing materials.

Note that if you choose to use this option for a particular coating operation rather than for the entire affected source, you calculate the organic HAP emission rate using just the materials used in that operation. Similarly, if your facility has multiple coating operations using this option (e.g., a TPO coating operation, an automotive lamp coating operation, an assembled on-road vehicle coating operation, and a

general use coating operation), you do a separate calculation for each coating operation to show that each coating operation meets its emission limit. If you are complying with a facility-specific emission limit, you would include all coating operations that are subject to the facility-specific emission limit in the compliance calculations.

If you use a capture system and add-on control device, other than a solvent recovery system for which you conduct liquid-liquid material balances, you use specified test methods to determine both the efficiency of the capture system and the emission reduction efficiency of the control device. To determine the capture efficiency, you would either verify the presence of a permanent total enclosure using EPA Method 204 of 40 CFR part 51, appendix M (and all materials must be applied and dried within the enclosure); or use one of three protocols in §63.4565 of the final rule to measure capture efficiency. If you have a permanent total enclosure and all materials are applied and dried within the enclosure and you route all exhaust gases from the enclosure to a control device, you assume 100 percent capture.

To determine the emission reduction efficiency of the control device, you conduct measurements of the inlet and outlet gas streams. The test consists of three runs, each run lasting 1 hour, using the following EPA Methods in 40 CFR part 60, appendix A:

- Method 1 or 1A for selection of the sampling sites.
- Method 2, 2A, 2C, 2D, 2F, or 2G to determine the gas volumetric flow rate.
- Method 3, 3A, or 3B for gas analysis to determine dry molecular weight.
- Method 4 to determine stack moisture.
- Method 25 or 25A to determine organic volatile matter concentration. Alternatively, any other test method or data that have been validated according to the applicable procedures in Method 301 of 40 CFR part 63, appendix A, and approved by the Administrator, could be used.

If you use a solvent recovery system, you could choose to determine the overall control efficiency using a liquid-liquid material balance instead of conducting an initial performance test. If you use the material balance alternative, you are required to measure the amount of all materials used in the controlled coating

operations served by the solvent recovery system during each month of the initial compliance period, and to determine the total volatile matter contained in these materials. You also measure the amount of volatile matter recovered by the solvent recovery system during each month of the initial compliance period. Then you compare the amount recovered to the amount used to determine the overall control efficiency each month and apply this efficiency to the total mass of organic HAP in the materials used to determine total organic HAP emissions for the month. You total these 12 monthly organic HAP emission values and divide by the total of the 12 monthly values for coating solids used to calculate the emission rate for the 12-month initial compliance period. You record the calculations and results and include them in your Notification of Compliance Status.

Operating Limits. As mentioned above, you establish operating limits as part of the initial performance test of a capture system and control device, other than a solvent recovery system for which you conduct liquid-liquid material balances. The operating limits are the minimum or maximum (as applicable) values achieved for

capture systems and control devices during the most recent performance test, conducted under representative conditions, that demonstrated compliance with the emission limits.

The final rule specifies the parameters to monitor for the types of emission control systems commonly used in the industry. You are required to install, calibrate, maintain, and continuously operate all monitoring equipment according to manufacturer's specifications and ensure that the continuous parameter monitoring systems (CPMS) meet the requirements in §63.4568 of the final rule. If you use control devices other than those identified in the final rule, you submit the operating parameters to be monitored to the Administrator for approval. The authority to approve the parameters to be monitored is retained by EPA and is not delegated to States.

If you use a thermal or catalytic oxidizer, you continuously monitor the appropriate temperature and record it at least every 15 minutes. For thermal oxidizers, the temperature monitor is placed in the firebox or in the duct immediately downstream of the firebox before any substantial heat exchange occurs. The

operating limit is the average temperature measured during the performance test and for each consecutive 3-hour period; the average temperature has to be at or above this limit. For catalytic oxidizers, temperature monitors are placed immediately before and after the catalyst bed. The operating limits are the average temperature just before the catalyst bed and the average temperature difference across the catalyst bed during the performance test. For each 3-hour period, the average temperature and the average temperature difference must be at or above these limits. Alternatively, if you develop and implement an inspection and maintenance plan for the catalytic oxidizer, then you are allowed to monitor only the temperature before the catalyst bed and meet only the temperature operating limit before the catalyst bed and are not required to monitor the difference across the bed.

If you use a regenerative carbon adsorber and do not conduct liquid-liquid material balances to demonstrate compliance, you monitor the carbon bed temperature after each regeneration and the total amount of steam or nitrogen used to desorb the bed for each regeneration. The operating limits are the carbon bed temperature at

the time the carbon bed is returned to service (not to be exceeded) and the amount of steam or nitrogen used for desorption (to be met as a minimum).

If you use a condenser and do not conduct liquid-liquid material balances to demonstrate compliance, you monitor the outlet gas temperature to ensure that the air stream is being cooled to a low enough temperature. The operating limit is the average condenser outlet gas temperature measured during the performance test and for each consecutive 3-hour period, the average temperature must be at or below this limit.

If you use a concentrator, you monitor the temperature of the desorption concentrate stream and the pressure drop across the concentrator. These values must be recorded at least once every 15 minutes. The operating limits must be the 3-hour average temperature (to be met as a minimum) and the 3-hour average pressure drop (to be met as a minimum) measured during the performance test.

For each capture system that is not a permanent total enclosure, you establish operating limits for gas volumetric flow rate or duct static pressure for each enclosure or capture device. The operating limit is the

average volumetric flow rate or duct static pressure during the performance test, to be met as a minimum. For each capture system that is a permanent total enclosure, the operating limit requires the average facial velocity of air through all natural draft openings to be at least 200 feet per minute or the pressure drop across the enclosure to be at least 0.007 inches water.

Work Practices. If you use a capture system and control device for compliance, you are required to develop and implement on an ongoing basis a work practice plan for minimizing organic HAP emissions from storage, mixing, material handling, and waste handling operations. This plan must include a description of all steps taken to minimize emissions from these sources (e.g., using closed storage containers, practices to minimize emissions during filling and transfer of contents from containers, using spill minimization techniques, placing solvent-laden cloths in closed containers immediately after use, etc.). You must make the plan available for inspection if the Administrator requests to see it.

If you use a capture system and control device for compliance, you are required to develop and operate according to a SSMP during periods of startup, shutdown,

or malfunction of the capture system and control device.

F. What are the continuous compliance provisions?

Emission Limits. If you use the compliant materials option (Option 1), you demonstrate continuous compliance if each coating meets the applicable emission limit and you use no organic HAP-containing thinners and/or other additives, or cleaning materials. If you use the emission rate without add-on controls option (Option 2), you demonstrate continuous compliance if, for each 12-month compliance period, the ratio of kg (lb) organic HAP emitted to kg (lb) coating solids used is less than or equal to the applicable emission limit. You follow the same procedures for calculating the organic HAP emitted to coating solids used ratio that you used for the initial compliance period.

For each coating operation on which you use a capture system and control device (Option 3), other than a solvent recovery system for which you conduct a liquid-liquid material balance, you use the continuous parameter monitoring results for the month as part of the determination of the mass of organic HAP emissions. If the monitoring results indicate no deviations from the operating limits and there were no bypasses of the

control device, you assume the capture system and control device are achieving the same percent emission reduction efficiency as they did during the most recent performance test in which compliance was demonstrated. You then apply this percent reduction to the total mass of organic HAP in materials used in the controlled coating operations to determine the emissions from those operations during the month. If there were any deviations from the operating limits during the month or any bypasses of the control device, you account for them in the calculation of the monthly emissions by assuming the capture system and control device were achieving zero emission reduction during the periods of deviation, unless you have other data indicating the actual efficiency of the emission capture system and add-on control device, and the use of these data is approved by your permitting authority. Determine the organic HAP emission rate by dividing the total mass of organic HAP emissions for the 12-month compliance period by the total mass of coating solids used during the 12-month compliance period. Every month, you calculate the emission rate for the previous 12-month period.

For each coating operation on which you use a

solvent recovery system and conduct a liquid-liquid material balance each month, you use the liquid-liquid material balance to determine control efficiency. To determine the overall control efficiency, you must measure the amount of all materials used during each month and determine the volatile matter content of these materials. You must also measure the amount of volatile matter recovered by the solvent recovery system during the month, calculate the overall control efficiency, and apply it to the total mass of organic HAP in the materials used to determine total organic HAP emissions each month. Then you determine the 12-month organic HAP emission rate in the same manner described above.

Operating Limits. If you use a capture system and control device, the final rule requires you to achieve on a continuous basis the operating limits you establish during the performance test. If the continuous monitoring shows that the capture system and control device are operating outside the range of values established during the performance test, you have deviated from the established operating limits.

If you operate a capture system and control device with bypass lines that could allow emissions to bypass

the control device, you demonstrate that captured organic HAP emissions within the affected source are being routed to the control device by monitoring for potential bypass of the control device. You may choose from the following five monitoring procedures:

- Flow control position indicator to provide a record of whether the exhaust stream is directed to the control device.
- Car-seal or lock-and-key valve closures to secure the bypass line valve in the closed position when the control device is operating.
- Valve closure monitoring to ensure any bypass line valve or damper is closed when the control device is operating.
- Automatic shutdown system to stop the coating operation when flow is diverted from the control device.
- Flow direction indicator to provide a record of whether the exhaust stream is flowing toward the control device.

A deviation would occur for any period of time the bypass monitoring indicates that emissions are not routed to the control device.

Work Practices. If you use an emission capture system and control device for compliance, you are required to implement, on an ongoing basis, the work practice plan you developed during the initial compliance period. If you did not develop a plan for reducing organic HAP emissions or you do not implement the plan, this would be a deviation from the work practice standard.

If you use a capture system and control device for compliance, you are required to operate according to your SSMP during periods of startup, shutdown, or malfunction of the capture system and control device.

G. What are the notification, recordkeeping, and reporting requirements?

You are required to comply with the applicable requirements in the NESHAP General Provisions, subpart A of 40 CFR part 63, as described in the final rule. The General Provisions notification requirements include: initial notifications, notification of performance test if you are complying using a capture system and control device, notification of compliance status, and additional notifications required for affected sources with continuous monitoring systems. The General

Provisions also require certain records and periodic reports.

Initial Notifications. If you own or operate an existing affected source, you must send a notification to the EPA Regional Office in the region where your facility is located and to your State agency no later than 1 year after publication of the final rule in the Federal Register. For new and reconstructed sources, you must send the notification within 120 days after the date of initial startup or 120 days after publication of the final rule, whichever is later. That report notifies us and your State agency that you have an existing affected source that is subject to the final standards or that you have constructed a new affected source. Thus, it allows you and the permitting authority to plan for compliance activities. You also need to send a notification of planned construction or reconstruction of a source that would be subject to the final rule and apply for approval to construct or reconstruct.

Notification of Performance Test. If you demonstrate compliance by using a capture system and control device for which you do not conduct a liquid-liquid material balance, you must conduct a performance

test. The performance test is required no later than the compliance date for an existing affected source. For a new or reconstructed affected source, the performance test is required no later than 180 days after startup or 180 days after Federal Register publication of the final rule, whichever is later. You must notify EPA (or the delegated State or local agency) at least 60 calendar days before the performance test is scheduled to begin and submit a report of the performance test results no later than 60 days after the test.

Notification of Compliance Status. You must submit a Notification of Compliance Status within 30 days after the end of the initial 12-month compliance period. In the notification, you must certify whether each affected source has complied with the final standards; identify the option(s) you used to demonstrate initial compliance; summarize the data and calculations supporting the compliance demonstration; and provide information on any deviations from the emission limits, operating limits, or other requirements.

If you elect to comply by using a capture system and control device for which you conduct performance tests, you must provide the results of the tests. Your

notification must also include the measured range of each monitored parameter, the operating limits established during the performance test, and information showing whether the source has complied with its operating limits during the initial compliance period.

If you are complying with a single emission limit representing the predominant surface coating activity under §63.4490(c)(1) of the final rule, include all calculations and supporting documentation for the predominant activity determination. If you are complying with a facility-specific emission limit under §63.4490(c)(2) of the final rule, include the calculation of the facility-specific emission limit and any supporting information.

Recordkeeping Requirements. You must keep records of reported information and all other information necessary to document compliance with the final rule for 5 years. As required under the General Provisions, records for the 2 most recent years must be kept on-site or be readily accessible from the site (for example, by a computer network); the other 3 years' records may be kept off-site. Records pertaining to the design and operation of the control and monitoring equipment must be kept for

the life of the equipment.

Depending on the compliance option that you choose, you may need to keep records of the following:

- Organic HAP content or volatile organic matter content and coating solids content (for all compliance options).
- Quantity of the coatings, thinners and/or other additives, and cleaning materials used during each compliance period. If you are using the compliant material option for all coatings at the source, you may maintain purchase records for each material used rather than a record of the volume used.
- For the emission rate (with or without add-on controls) compliance options, calculations of your emission rate for each 12-month compliance period.
- All documentation supporting initial notifications and notifications of compliance status.

If you demonstrate compliance by using a capture system and control device, you must keep records of the following:

- All required measurements, calculations, and supporting documentation needed to demonstrate compliance with the standards.

- All results of performance tests and parameter monitoring.
- All information necessary to demonstrate conformance with your plan for minimizing emissions from mixing, storage, and waste handling operations.
- All information necessary to demonstrate conformance with the affected source's SSMP when the plan procedures are followed.
- The occurrence and duration of each startup, shutdown, or malfunction of the emission capture system and control device.
- Actions taken during startup, shutdown, and malfunction that are different from the procedures specified in the affected source's SSMP.
- Each period during which a CPMS is malfunctioning or inoperative (including out-of-control periods).

The final rule requires you to collect and keep records according to certain minimum data requirements for the CPMS. Failure to collect and keep the specified minimum data would be a deviation that is separate from any emission limits, operating limits, or work practice standards.

Deviations, as determined from these records, must

be recorded and also reported. A deviation is any instance when any requirement or obligation established by the final rule including, but not limited to, the emission limits, operating limits, and work practice standards, is not met.

If you use a capture system and control device to reduce organic HAP emissions, you must make your SSMP available for inspection if the Administrator requests to see it. The plan stays in your records for the life of the affected source or until the source is no longer subject to the final standards. If you revise the plan, you must keep the previous superseded versions on record for 5 years following the revision.

If you are using the predominant activity or facility-specific emission limit alternative, you must keep the records of the data and calculations needed to determine the predominant activity or to calculate the facility-specific emission limit for your facility.

Periodic Reports. Each reporting year is divided into two semiannual reporting periods. If no deviations occur during a semiannual reporting period, you submit a semiannual report stating that the affected source has been in continuous compliance. If deviations occur, you

include them in the report as follows:

- Report each deviation from the emission limit.
- Report each deviation from the work practice standards if you use an emission capture system and control device.
- If you use an emission capture system and control device, other than a solvent recovery system for which you conduct liquid-liquid material balances, report each deviation from an operating limit and each time a bypass line diverts emissions from the control device to the atmosphere.
- Report other specific information on the periods of time the deviations occurred.

You also have to include in each semiannual report an identification of the compliance option(s) you used for each affected source and any time periods when you changed to another compliance option.

Other Reports. You are required to submit reports for periods of startup, shutdown, or malfunction of the capture system and control device. If the procedures you follow during any startup, shutdown, or malfunction are inconsistent with your SSMP, you report those procedures with your semiannual reports in addition to immediate

reports required by 40 CFR 63.10(d)(5)(ii).

III. What are the significant changes since proposal?

A. Applicability

We have revised the applicability section to clarify who is subject to the final rule. Specifically, the section includes activities associated with coating operations such as surface preparation, cleaning, mixing, and storage as long as these activities are associated with coating application at the facility.

We revised the scope of the assembled on-road vehicle subcategory to include the surface coating of fully assembled motor vehicles and trailers, including the coating of any metal substrate on the vehicle. In addition, we amended the assembled on-road vehicle subcategory to include the concurrent coating of parts such as radiator grills that are removed from the fully assembled on-road vehicle to prevent overspray of sensitive systems or equipment and to facilitate full coverage.

We have clarified that when determining whether your facility is below the applicability threshold, you may exclude coatings that meet the definition of non-HAP coating when determining whether you use 378 liters (100

gal) per year, or more, of coatings in the surface coating of plastic parts and products (§63.4481(b) of the final rule). Thus, a facility using mostly non-HAP coatings and less than 100 gal per year of HAP-containing coatings will not be subject to the final rule. In addition, we have included a definition of "non-HAP coating" in the final rule.

B. Scope of Category

We have clarified the scope of the final rule to exclude surface coating operations using only coatings, thinners and other additives, and cleaning materials that contain no organic HAP. We also excluded surface coating of plastic that is subject to several other NESHAP. In addition, we included a provision that allows sources that meet the applicability criteria of both the final rule and the Automobiles and Light-Duty Trucks NESHAP to comply with the Automobiles and Light-Duty Trucks NESHAP for all their surface coating operations associated with the manufacturing of automobiles or light-duty trucks in lieu of complying with each subpart separately.

C. Emission Limits

The emission limits remain as proposed, except for the TPO subcategory. The new source TPO limit increased

from 0.17 to 0.22 kg (lb) organic HAP emitted per kg (lb) coating solids used during each 12-month compliance period (see §63.4490(a)(3)). The existing source TPO limit increased from 0.23 to 0.26 kg (lb) organic HAP emitted per kg (lb) coating solids used during each 12-month compliance period (see §63.4490(b)(3)). The changes were the result of additional data and information from commenters resulting in revised emission rate estimates for some sources in the TPO subcategory.

D. Method for Determining HAP Content

In the final rule, we have included a method for determining the HAP content for reactive adhesives based on the HAP actually emitted, rather than determining the mass fraction of organic HAP in the coatings using Method 311 or Method 24. Facilities may use the alternative method for reactive adhesives contained in appendix A to the final rule. In addition, we included a provision for reactive adhesives to allow facilities to rely on manufacturer's data that expressly states the organic HAP mass fraction emitted.

E. Deviations from Operating Parameters

The proposed rule stated that if your add-on control system deviates from the operating limit specified in

Table 1 to subpart PPPP of 40 CFR part 63, then you must assume that the emission capture system and add-on control device were achieving zero efficiency during the time period of the deviation. We have written the final rule to allow the use of other data to indicate the actual efficiency of the emission capture system and add-on control device, as long as the use of these data is approved by the respective permitting authority.

F. New Alternatives to Facilitate Compliance with Multiple Coating NESHAP and Multiple Emission Limits

The final rule allows facilities subject to more than one surface coating emission limit to comply with each applicable emission limit separately or to adopt one of two alternatives. The first alternative allows all coating operations to comply with the emission limit representing the predominant surface coating activity at the facility (the predominant activity means the surface coating activity representing 90 percent or more of the total surface coating activity).

The predominant activity approach is also available for sources that are subject to more than one subcategory emission limit. That is, a source may determine which subcategory represents 90 percent or more of the coating

activities that take place at the facility, and then have all coating operations at the facility comply with the emission limit that represents the predominant activity.

The second alternative allows a facility to comply with a facility-specific emission limit calculated from the relative amount of coating activity that is subject to individual emission limits. The facility-specific emission limit may include separate emission limits from one or more applicable NESHAP.

You must include all surface coating activities that meet the applicability criteria of a subcategory in a surface coating NESHAP and constitute more than 1 percent of total coating activities. Coating activities that meet the applicability criteria of a subcategory in a surface coating NESHAP but comprise less than 1 percent of total coating activities need not be included in the facility-specific emission limit calculation but they must be included in the compliance calculations.

Another approach that you may use is the equivalency by permit option in 40 CFR part 63, subpart E (§63.94). Under this approach, you may design an emissions control program that is suited for your process or plant as long as you can demonstrate that your program will achieve the

same emissions reductions as the NESHAP. You must then work with your State, local, or tribal air pollution control agency to submit an equivalency demonstration. This equivalency demonstration will be reviewed by the appropriate EPA Regional Office. The equivalency demonstration is approved as part of the operating permit approval process. For more information, please see the section 112(l) website at [http://www.epa.gov/ttn/atw/112\(l\)/112-lpg.html](http://www.epa.gov/ttn/atw/112(l)/112-lpg.html).

IV. What are the responses to significant comments?

For the full set of comment summaries and responses, refer to the BID (National Emission Standards for Hazardous Air Pollutants: Surface Coating of Plastic Parts and Products, August 2003, EPA-453/R-03-007), which contains EPA's responses to each public comment and is available in Docket ID No. OAR-2002-0074 (formerly Docket No. A-99-12).

A. Applicability and Scope of Source Category

Comment: Several commenters requested that the applicability threshold be increased from 100 gal per year to 250 gal per year to be consistent with the applicability threshold in the miscellaneous metal parts and products rule. One commenter believes uniformity is

necessary for facilities subject to both rules . One commenter further requested that use of HAP-free materials should not count toward the applicability threshold level.

Several commenters also requested that coatings used in volumes of less than 50 gal per year (not to exceed a total of 100 gal per year) be exempt from the final rule and noted that a similar exemption is part of the proposed NESHAP for miscellaneous metal parts and products. Another commenter requested the same exemption, but asked that a total of up to 250 gal per year be eligible because that is the level in the Miscellaneous Metal Parts and Products NESHAP. Another commenter requested that the allowed facility total be 500 gal per year.

Response: The applicability threshold of 100 gal or more per year has not been revised, and the final rule does not contain the suggested provision that coatings used in small volumes (less than 50 gal per year, not to exceed 100 gal per year) should be exempt from the emission limits.

The applicability threshold of 100 gal or more per year of coating was selected based on an analysis of the

data provided to the EPA through the plastic parts and products industry survey. These data indicate that sources using 100 gal or more per year of plastic part surface coating materials were engaged in surface coating as part of their primary activity and those using less than this amount were not. Moreover, facilities using 100 gal or more per year apply coatings using similar processes and control techniques, making the emission limits and emission reduction requirements relevant to all sources of this size or larger. Since the threshold is based on an analysis of data from the actual facilities that will be subject to the rule, the final rule does not revise the threshold.

In response to comment, we have changed the rule to clearly state that the use of non-HAP materials (as defined in the rule) does not count towards the 100 gal applicability threshold in the final rule. This would avoid a situation where a source would be subject to the final rule even though it was using mostly non-HAP coatings and less than 100 gal per year of HAP-containing coatings. Because the purpose of the final rule is to control HAP, we agree that it is appropriate to consider only HAP-containing coating in determining whether a

source meets the applicability threshold.

The final rule does not include the exemption for small volumes of individual coatings (less than 50 gal per year). In determining MACT, EPA included all reported coatings, even those used in small volumes, in the emission rate for each source. Since small volume coatings were included in the emission rate for each source, the emission limits should be achievable for sources that include all coatings in their compliance demonstrations.

Comment: One commenter suggested including all lamps that are subject to National Highway and Traffic Safety Administration regulations for vehicle lamps (49 CFR 571.108) in the headlamp subcategory. The commenter noted that all vehicle exterior lamps must meet the same Federal safety standards and technical requirements for coatings that warranted the separate subcategory for headlamps. The reflective finishes on tail lamps and other lamps, therefore, require the use of the same argnet reflective coatings and HAP-containing solvents that are used on headlamps.

Response: We agree with the commenter and have revised the scope of the headlamp coating subcategory to

include coating operations on all exterior automotive lamps (headlamps, tail lamps, turn signals, brake lights, and side marker lights). To reflect the broader content of this subcategory, we have also changed the name of the subcategory to "automotive lamp coating." This change in the scope of this subcategory, however, has not affected the results of the MACT analysis that are the basis for the emission limits for this subcategory.

B. Overlap with Rules for Other Source Categories
Department of Defense Coatings.

Comment: One commenter stated that EPA should establish a separate source category for DoD surface coating operations not covered by the Aerospace or the Shipbuilding and Ship Repair NESHAP (40 CFR part 63, subparts GG and II, respectively) and exempt these coating operations from the final rule for plastic parts. The commenter described the unique material requirements and operating conditions for military coating operations that are different from commercial operations. The commenter claimed that the proposed compliance options would be impractical and extremely costly for DoD facilities because of the complexity of military coating operations, the number of coatings and solvents used, and

the number of different items and substrates coated. Many DoD installations (especially those that service or remanufacture artillery, armored vehicles, weapons systems, and support equipment) use thousands of different coatings, and each material is subject to its own military specification.

Because DoD facilities use HAP-containing solvents, the commenter claimed they could not use the proposed compliant materials option. Reformulating solvents or coatings requires extensive field testing before they may be approved for use in tactical field equipment and weapons systems. In addition, updating the coatings for which there is a military specification requires updating the documentation applicable to military specifications and the documentation for the relevant equipment and weapons systems that adopt those military specifications.

The proposed emission rate option and the add-on controls option are not feasible because they would require DoD to be able to accurately track the amount of coating or cleaning solvent used on each item or substrate. As noted above, DoD installations may use thousands of different coatings on a variety of substrates, including metal, plastic, ceramics, rubber,

fabric, wood, and composites.

The commenter requested a separate source category so that emission limits and a regulatory format could be developed that would be most appropriate for military coating needs. The commenter claimed that a separate rule also would ensure that all DoD coatings could comply with emission limits using the same units of measure. The commenter noted that DoD facilities use many of the same high performance coatings on plastic and metal items and substrates, and they could be potentially regulated by both the NESHAP for plastic parts and products and the NESHAP for miscellaneous metal parts and products.

Response: After several visits to DoD surface coating operations and meetings with DoD stakeholders, EPA agrees that a separate source category for DoD surface coating operations is warranted. One factor that we considered in this decision is the unique military specifications for coatings used on tactical and other military equipment. Further data collection and analysis are required to determine what emission limits are achievable for these coating operations. Another factor that we considered is the issue that military facilities may use thousands of different coatings, and that the

types of equipment that are coated and the types of coatings used in a given time period are unpredictable and often influenced by world events. Further analysis is needed to determine what emission limit formats, compliance demonstration, and recordkeeping requirements are practical for this type of situation. Another consideration was the high probability that these sources would be subject to multiple NESHAP.

The EPA will be developing separate NESHAP for "Defense Land Systems and Miscellaneous Equipment" surface coating operations. Those NESHAP will include operations that do not meet the applicability criteria of the Aerospace NESHAP or the Shipbuilding and Ship Repair NESHAP. The comments pertaining to the format of the standards and appropriate compliance options will be taken into consideration in the development of those NESHAP.

Exclusion of Activities Subject to Other Surface Coating NESHAP.

Comment: One commenter requested that surface coating of plastic subject to the Paper and Other Web Coating NESHAP (40 CFR part 63, subpart JJJJ) be included in the list of coating operations that are exempt from

the final rule.

Response: The final rule specifically exempts the surface coating of plastic web substrates. The EPA agrees that the coating of plastic web substrates that is already subject to the Paper and Other Web Coating NESHAP should not be subject to additional regulation under the final rule. This change will clarify the applicability of both NESHAP.

Comment: One commenter strongly recommended that one rule, either the final rule or 40 CFR part 63, subpart Mmmm, apply to all assembled on-road vehicles. According to the commenter, motor home manufacturers offer customers numerous options that determine the surfaces of each vehicle. The commenter claimed that a substrate tracking program would need to be broken down to individual work orders to meet the requirements for calculating and demonstrating compliance with both subparts.

Response: The EPA agrees with the commenter. Both the final rule and 40 CFR part 63, subpart Mmmm state that the surface coating of all assembled on-road vehicles, including the coating of any metal substrate on the assembled vehicle, will be subject to only the

emission limits of the assembled on-road vehicle subcategory in the final rule. This is consistent with the data and methodology used to set the MACT emission limit for the assembled on-road vehicle subcategory. A separate assembled on-road vehicle subcategory was established because of the large size of assembled on-road vehicles and the fact that assembled vehicles frequently contain heat-sensitive parts that prevent the use of curing ovens and various low-HAP coating technologies. However, the coating of metal parts prior to the assembly of the vehicle, such as a motor home chassis, will still be subject to 40 CFR part 63, subpart MMMM. Likewise, the surface coating of plastic parts prior to the final assembly of the motor home will be subject to either the general use, automotive lamp, or TPO emission limit in the final rule, as appropriate for the type of coating operation.

Comment: One commenter requested that EPA clarify that the Aerospace NESHAP (40 CFR part 63, subpart GG), rather than the Plastic Parts NESHAP, cover parts necessary for the proper functioning of aircraft. Another commenter requested the final rule clarify that all aerospace coating, cleaning, and repainting

activities are subject to the Aerospace NESHAP and exempt from subpart PPPP. The commenter stated that the proposal preamble indicated that coating activity exempted from the Aerospace NESHAP would be subject to the NESHAP. The commenter argued that the Aerospace NESHAP found that MACT controls were not warranted for certain aerospace surface coating operations and that regulating these operations under the final rule would be an unexplained change in policy. Another commenter maintained that EPA has not demonstrated that the aerospace rework industry can cost-effectively achieve the general use emission limit. The commenter noted that many coatings for plastic surfaces and parts associated with the interior of aircraft must meet Federal Aviation Administration or Original Equipment Manufacturer specifications.

Another commenter suggested that the final rule include an alternative compliance option for facilities subject to the final NESHAP under development for the surface coating of automobiles and light-duty trucks that also coat plastic parts that would not be subject to the Automobiles and Light-Duty Trucks NESHAP. The commenter noted that some automobile and light-duty truck

facilities will be subject to the final rule for plastic parts coating, the NESHAP for the surface coating of automobiles and light-duty trucks, and the Miscellaneous Metal Parts and Products NESHAP. The commenter suggested that a source be allowed to comply with the final NESHAP for automobiles and light-duty trucks for all coating operations if the principle activity is the surface coating of automobiles and light-duty truck bodies. The commenter noted that the plastic and metal parts coating operations are often integrated with the body coating operations, since all three coating operations may share common coating supplies, application equipment, cleaning solvents, and emission controls. The shared equipment and materials could make tracking separate compliance for each NESHAP overly burdensome and would reduce the certainty of compliance.

One commenter requested that EPA clarify that shipbuilding or ship repair surface coating operations are subject to only the Shipbuilding and Ship Repair NESHAP (40 CFR part 63, subpart II). The commenter noted that the Shipbuilding and Ship Repair NESHAP covers only paints and thinners, and does not cover caulks, sealants, and adhesives. Since the plastic parts rule covers all

coating materials, the commenter was concerned that it would cover those materials that were not specifically addressed by the Shipbuilding and Ship Repair NESHAP and will make shipbuilding and ship repair sources subject to multiple NESHAP.

Response: We agree with the commenter that coating operations that are addressed in the Aerospace NESHAP, and for which EPA determined that MACT controls were not needed, are not intended to be regulated under the Plastic Parts and Products NESHAP. To clarify this intent, the final plastic parts rule includes a provision that specifies that the final rule does not apply to coatings that meet the applicability criteria for the Aerospace NESHAP (40 CFR part 63, subpart GG). In addition, the final rule excludes the application of specialty coatings, as defined in appendix A to subpart GG, to metal parts of aerospace vehicles or components.

The coating of plastic parts that would not meet the applicability of the Aerospace NESHAP or that would not require any of the specialty coatings defined in appendix A to 40 CFR part 63, subpart GG would be subject to the plastic parts final rule. Information provided during the comment period indicates that any plastic coating

activities would comprise less than 5 percent of total coating activities at an aerospace facility.

Consequently, the facility could elect to comply with the predominant activity compliance alternative to reduce its recordkeeping and reporting burden.

We agree that the final rule for the surface coating of plastic parts is not intended to apply to coating operations that meet the applicability criteria of the Shipbuilding and Ship Repair NESHAP. Although the Shipbuilding and Ship Repair NESHAP did not establish emission limits for sealants, caulks, and adhesives used in shipbuilding or ship repair, such types of coatings used for shipbuilding or ship repair operations are more appropriately addressed under the Shipbuilding and Ship Repair NESHAP. The review of the Shipbuilding and Ship Repair NESHAP, required by section 112(d)(6) of the CAA, is an appropriate mechanism for evaluating whether emission limits are needed for sealants, caulks, and adhesives used in shipbuilding or ship repair.

For sources that will be subject to the final Automobiles and Light-Duty Trucks NESHAP, the final plastic parts and products rule includes a provision to mitigate the overlap at these facilities. For these

plastic part surface coating operations, a facility has the option to comply with the requirements of the final Automobiles and Light-Duty Trucks NESHAP as long as the plastic parts are for use in automobiles or light-duty trucks.

Complying with the Rule Representing the Majority of the Substrate (Plastic or Metal) on Pre-assembled Parts.

Comment: Several commenters supported this option in the proposed rule. However, one commenter requested that this option be revised to include facilities that coat both metal and plastic components separately, as well as those that coat multi-substrate parts. The commenter noted that this would prevent a source from having to track the amount of coating applied to individual parts in a coating operation when a source coats separate plastic and metal parts and preassembled parts that contain plastic and metal on the same line.

Several other commenters did not support the proposed option. One commenter claimed that the proposed rule is unclear and overly burdensome for facilities that coat both metal and plastic parts (which may not be pre-assembled) and that this compliance option would help few, if any, facilities. One commenter noted that

because the same cleaning solvents are used for multiple substrates and coating operations, it would be extremely difficult to determine the quantity used for plastic parts and products versus other substrates. Another commenter noted that the relative amount of plastic and metal coated at a facility could change over time and a facility could potentially fluctuate between applicable NESHAP.

Response: We recognize and appreciate some of the problems that were identified with this approach by the commenters. Although some commenters supported this approach, it is not included in the final rule. The final rule instead offers more practical compliance approaches, including a predominant activity and a facility-specific emission limit alternative, as described in this preamble.

Comply with the Most Stringent NESHAP

Comment: Several commenters supported this provision. One commenter agreed that complying with only one NESHAP would prevent excessive monitoring, recordkeeping, and reporting. One commenter suggested that this option would require less recordkeeping than tracking and determining which substrate represents the

greatest coating activity.

However, several commenters stated that different units of measure (e.g., lb organic HAP per lb solids versus lb organic HAP per gal solids) make it difficult to determine which surface coating NESHAP among several is more stringent. Additionally, one commenter noted that case-by-case demonstrations of relative stringency based on total estimated annual emissions are difficult because of the different standards and units of measure in the various NESHAP. One commenter noted that when different NESHAP have different methods of compliance demonstration, sources must track and allocate material usage differently for different parts. Cleaning solvents in particular are a problem, since some NESHAP emission limits include cleaning solvents while others impose work practices instead.

One commenter noted that the rule as proposed places the burden on the source to determine the most stringent limit, and that the different units used for different surface coating rules may cause a source to mistakenly fall out of compliance through miscalculation or misunderstanding.

Several commenters suggested options so that sources

would not have to determine which rule is most stringent on a case-by-case basis. Some commenters suggested that the relative stringency of different NESHAP should be stated in each rulemaking so that facilities subject to more than one NESHAP do not need to perform a case-by-case determination of which applicable rule is most stringent. Another commenter suggested that the different surface coating rules contain factors or equations so a source could convert emission limits from one unit to another (e.g., lb organic HAP/lb solids to lb organic HAP/gal solids).

One commenter recommended that EPA allow facilities subject to both the Plastic Parts and Products NESHAP and the Miscellaneous Metal Parts and Products NESHAP the option of complying with the standards of their choice since both NESHAP will significantly reduce organic HAP emissions.

Response: Through clarification of the applicability provisions of the final rule, as described in this preamble, we have significantly reduced the potential for sources to be subject to multiple surface coating NESHAP. However, we recognize that some sources may be subject to both the final rule and the

miscellaneous metal parts rule, and possibly other NESHAP. We agree with the commenters who argued that demonstrating compliance with the most stringent NESHAP is complicated by the fact that it is hard to determine which NESHAP is most stringent because of differences in units, the affected source targeted (e.g., whether cleaning is included in the emission limits), and compliance periods. Therefore, the option of complying with the most stringent NESHAP is not included in the final rule. Instead, the final rule provides the predominant activity and facility-specific emission limit compliance alternatives, as described in this preamble.

Predominant Activity Compliance Option.

Comment: Several commenters supported the predominant activity compliance option. One of the commenters preferred the "predominant activity" compliance option only if it is based on estimates of surface area coated. The commenter provided as an example a truck manufacturing facility that could estimate the total surface area coated by using truck part design information for each truck and tracking the number of trucks manufactured each year.

Several commenters recommended that the predominant

activity demonstration be made only at the time a source applies for or renews its operating permit under title V or when the source becomes subject to regulations applicable to new source review or prevention of significant deterioration. The commenters noted that a "one-time" or periodic demonstration would reduce the recordkeeping burden and avoid the potential for some facilities to fluctuate back and forth between two applicable NESHAP if predominant activity was tracked over a short time frame.

Response: The final rule provides two alternatives for reducing the burden associated with complying with more than one coating NESHAP or with more than one subcategory emission limit. The first alternative allows a facility to identify its predominant type of coating activity and comply with the NESHAP or the subcategory emission limit that applies to that activity for all coating operations. The predominant activity is defined as the activity that represents 90 percent or more of the surface coating that occurs at a facility. The second alternative allows a facility to calculate and comply with a facility-specific emission limit.

We have analyzed the relative differences in

emission limits that are included in the predominant activity compliance option, as it would apply to the NESHAP for plastic parts and products and the NESHAP for miscellaneous metal parts and products. We have determined, for certain subcategories, that the environmental benefit of complying with the emission limit for the predominant activity is essentially equivalent to complying separately with each emission limit. For subcategories where the environmental benefit would not be substantially equivalent to complying with each standard separately, the predominant activity alternative is not provided. The predominant activity alternative does not apply to coating operations that are subject to the assembled on-road vehicle or automotive lamp emission limits in the final rule. These emission limits reflect the need for specialized performance requirements that can currently be accomplished only with materials that contain substantially higher HAP than materials used at other types of coating operations. It would be inappropriate to allow coating operations that can be performed with lower-HAP materials to comply with substantially higher-HAP emission limits than would otherwise be applicable.

Under the predominant activity alternative, if all coating operations comply with the emission limit applicable to the predominant activity, the facility will be considered in compliance with the emission limits otherwise applicable to the minority surface coating operations (i.e, those that amount to less than 10 percent of the coating activity).

The predominant activity determination could be based on representative coating data from the prior 1 to 5 years of operation for existing sources, or it could be based on reliable projections for future operations. For new sources, the determination would be based on projections of coating activity for the next 1 to 5 years or other period that is believed to represent future coating operations.

We believe the most appropriate basis for the predominant activity determination is the percentage of coating solids that is applied to parts subject to different emission limits. A facility would not need to measure the amount of coating solids used on different parts and products to determine the relative amount of coating activity subject to different emission limits. Instead, a facility could use other reliable and

verifiable information including, but not limited to, product design, volume of coatings used, or the number of different parts and products coated during a representative period as long as it is approved by the permitting authority.

Create a Subcategory for Overlap Sources or Job Shops. Comment: One commenter suggested that developing subcategories for facilities subject to multiple NESHAP would not be feasible because EPA might need to create several subcategories to address different combinations of NESHAP. Another commenter stated that a subcategory for mixed coating operations could not be considered as an option without a proposed numerical emission limit. The same commenter claimed that emission limits for this option can not be developed based on the current MACT database.

Response: We agree with the commenters that this option is not feasible for several reasons. First, as stated in the proposal preamble (67 FR 72280, December 4, 2002), this option may not afford as much operating flexibility as other options being considered. Second, we did not have sufficient data to develop emission limits since most sources responding to the plastic parts

and miscellaneous metal parts industry surveys tended to provide only data relevant to those surveys and the surveys were completed by sources that were more or less dedicated to one substrate or another. As a result, we did not have representative or accurate data from those sources most likely to be subject to this type of emission limit. Finally, as one commenter alluded to, even if useful data became available, an emission limit for these "job shop" sources would need to be proposed for public comment.

Expand the Definition of the Source Category and Subcategories to Include Incidental Surface Coating Operations.

Comment: One commenter stated that an approach for "incidental" surface coating operations, would not be useful for sources such as truck manufacturers because neither plastic nor metal coating is incidental to their operations. Another commenter claimed that the incidental surface coating operations option may provide some relief.

Response: The final rule does not expand the definition of the plastic parts and products or miscellaneous metal parts and products source categories

or subcategories to include incidental surface coating operations. However, as described previously, under the predominant activity compliance alternative in the final rule, a source may comply with the emission limit that represents 90 percent or more of the coating activity at a source. For both the predominant activity and facility-specific emission limit alternatives, you may exclude coating activities that meet the applicability criteria of other surface coating NESHAP as long as these coating activities do not constitute more than 1 percent of total coating activities. Although these incidental coating activities can be excluded from the emission limit calculation or predominant activity determination, the coating activities must be included in the facility-wide compliance calculation.

Comments on the Proposal to Establish a Multi-Component Emission Limit.

Comment: One commenter disagreed with EPA's suggestion of setting a multi-component emission limit for several reasons. The commenter did not think it would reduce recordkeeping because in both cases (separate compliance and a multi-component emission limit) a source would have to track the amount of each

coating applied to each substrate in each subcategory. The commenter also contended that this approach would likely increase emissions compared to compliance with the individual limits, but did not provide any supporting explanation. The commenter was also concerned that some facilities could operate out of compliance if the emission limit does not accurately reflect the mix of substrates that they coat. Finally, the commenter believed that this option would amount to emissions averaging across subcategory boundaries and would contradict CAA section 112(d)(3), which mandates that standards for a subcategory cannot be less stringent than the MACT floor for the subcategory.

Several other commenters, however, supported this approach. One commenter argued that restricting emission averaging among coating operations discourages innovative and environmentally beneficial approaches to low-HAP coatings. The commenter argued that allowing averaging would promote more cost-effective regulation of HAP emissions while achieving an overall environmental benefit. The commenter also argued that the same flexible approach should be incorporated for meeting the requirements of multiple NESHAP at the same facility, as

well as meeting multiple emission limits within a single NESHAP.

One commenter supported the idea of a source subject to two or more subcategory limits (e.g., TPO and general use) to calculate a source-specific multi-component emission limit based on the relative amount of coating solids used on each plastic substrate. However, the commenter recommended that EPA not require a facility to calculate the limit each month and instead be allowed to calculate it annually or when renewing its permit.

While not commenting directly on this option, many commenters also expressed concern that many sources coat both plastic and metal parts, often using the same coatings and cleaning solvents. According to these commenters, requiring a facility to demonstrate compliance with separate emission limits in two or more surface coating NESHAP would be difficult and burdensome. These comments have been summarized earlier in this section.

Response: Through clarification of the applicability provisions of the final rule, as described in this preamble, we have significantly reduced the potential for sources to be subject to multiple surface

coating NESHAP. In addition, EPA is providing in the final rule, the opportunity for a source to determine and comply with a facility-specific weighted emission limit for all coating operations that take place at the source. The emission limit would be weighted according to the relative amount of coatings used that would be subject to separate emission limits. This alternative emission limit may include applicable emission limits from two or more NESHAP.

In calculating the facility-specific emission limit, the basis for the weighting of the individual emission limits must be the mass of coating solids used in each subcategory. The mass coating solids used in the different coating operations may be calculated by a variety of methods, as long as it is accepted by the permitting authority. For example, in some cases a facility that uses the same coating for plastic and metal parts may be able to use the design specifications of the parts coated and the numbers of each type of part coated to calculate the weight of coating solids used for metal and plastic surfaces subject to the individual emission limits. In other situations, actual records of coating usage for each operation may be needed to provide a valid

calculation.

In calculating a facility-specific emission limit for operations subject to NESHAP with emission limits in different formats, you will need to convert emission limits to the same format. To do so, you must use a default value for solids density of 12.5 lbs solids per gal solids (1.50 kg solids/liter solids) to convert emission limits in the Miscellaneous Metal Parts and Products NESHAP that are in "HAP per volume solids" to the "HAP per mass solids" units of the Plastic Parts and Products NESHAP. This default value was calculated from the weighted-average solids density of coatings in the metal parts survey database and represents the average solids density of metal parts coatings.

The following example illustrates how the facility-specific emission limit may be used. Assume a facility has three coating operations subject to the following emission limits:

- C plastic parts general use (0.16 lb organic HAP/lb solids);
- C plastic parts TPO (0.26 lb HAP/lb solids); and
- C miscellaneous metal parts general use (2.6 lb organic HAP/gal solids).

The three coating operations used the following pounds of coating solids in the 12 months of the compliance period:

- C plastic parts general use: 30,000 lbs;
- C plastic parts TPO: 30,000 lbs; and
- C miscellaneous metal parts general use: 40,000 lbs.

First, the miscellaneous metal parts general use emission limit must be converted to lb organic HAP/lb solids units as in the plastic parts rule. For this example, we will use the default solids density of 12.5 lb solids per gal solids:

$$\frac{2.6 \text{ lb HAP}}{\text{gal solids}} \times \frac{1 \text{ gal solids}}{12.5 \text{ lb solids}} = \frac{0.21 \text{ lb HAP}}{\text{gal solids}}$$

Next, the facility-specific emission limit is calculated using Equation 1 in §63.4490 of the final rule:

$$\frac{(0.16)(30,000) + (0.26)(30,000) + (0.21)(40,000)}{(30,000 + 30,000 + 40,000)} = \frac{0.21 \text{ lb HAP}}{1 \text{ lb solids}}$$

If all coating operations comply with an emission limit of 0.21 lb organic HAP/lb solids and with the other compliance provisions of the final rule, the facility will be in compliance with the final rule for that compliance period. The calculation must be repeated for each 12-month compliance period. In this example, compliance will also constitute compliance with the Miscellaneous Metal Parts and Products NESHAP for the metal parts coating operations. The facility may use either the compliant materials option, the emission rate without add-on controls option, or the emission rate with add-on controls option to demonstrate compliance with the facility-specific emission limit.

This approach is consistent with the CAA because the emission limits from which the facility-specific emission limit would be calculated are based on the MACT emission limits for each applicable coating operation. We believe that overall emissions would be essentially the same as if each coating operation were complying separately with each applicable emission limit. The facility-specific emission limit needs to be calculated each month of the 12 month compliance period because of the wide differences in the various emission limits available for

inclusion. A relatively small change in the mix of coating operations conducted during a compliance period may have a significant effect on the weighted emission limit. Thus, it would not be appropriate for a facility to establish and maintain a fixed facility-specific emission limit based on historical data or long term projections.

In the final rule, the facility-specific emission limit and predominant activity alternatives provide sources with comprehensive and flexible approaches that will reduce the recordkeeping associated with sources that coat multiple substrates and whose workload could fluctuate over time. These alternatives reduce the likelihood of overlap among multiple surface coating NESHAP.

C. The MACT Floor Approach and Database

Comment: Several commenters requested that the rule be revised to either exempt solvent blends from HAP limits or change the MACT floors to reflect the default HAP contents. One commenter noted that when sources provided EPA with coating data they were not aware that solvent blends contained HAP, and therefore did not report any HAP content in these materials. Therefore,

according to the commenters, using the default HAP contents in the rule, as proposed, to determine compliance is not consistent with the MACT floor. Other commenters requested that EPA verify that the manner in which solvent blends were accounted for in the database is consistent with the default HAP fractions in Tables 3 and 4 of this preamble.

Response: When we analyzed the data provided to us in establishing the MACT floor for the general use, automotive lamp, and TPO subcategories, we accounted for the HAP in solvent blends, consistent with Tables 3 and 4 of this preamble. Therefore, no adjustments to the proposed limits are necessary to account for the HAP in solvent blends.

For the assembled on-road vehicle subcategory, the proposed limits are based on data provided to EPA that, according to the commenters, did not account for the HAP in solvent blends. We have reviewed more detailed HAP data from EPA surveys for sources in this subcategory. Based on these data, the HAP from solvent blends accounts for only about 0.1 percent of all HAP emitted from the coating operations at these sources. Therefore, we believe that no adjustment in the emission limit for the

assembled on-road vehicle subcategory is needed to account for the HAP in solvent blends that will be included in the compliance calculations.

Comment: Several commenters provided additional data that resulted in revised emission rates for some of the MACT floor facilities in the TPO subcategory. Two commenters expressed concern that the MACT floor database could contain errors that were still undetected. The commenters were also concerned that some coating materials could not be accurately linked to specific subcategories at several sources that had coating operations in more than one subcategory. The commenters recommended adding a 20-percent correction factor to the proposed emission limits to account for potential errors that had not yet been identified and to account for materials that were not linked to specific subcategory coating operations.

Two commenters also questioned EPA's assumptions about capture efficiency and the approach for dividing HAP emissions among the spray booth, flash-off, and curing ovens for those facilities that did not supply specific information when estimating emission rates for sources with add-on controls. The commenters questioned

whether EPA should have assumed 100 percent capture efficiency for total enclosures when data for some sources indicated only about 65 percent capture efficiency. The commenters also argued that the majority of emissions (about 80 percent) occur in the spray booth and that it is inappropriate to divide emissions evenly among the spray booth, flash-off area, and the oven and drying area. Both commenters stated that these estimates affect the estimated HAP emissions from the floor facilities.

One commenter requested that EPA modify the emission limits for TPO because the proposed limits are not practically achievable for solventborne systems, or the final rule should include a predominant activity option for TPO surface coating sources that are also subject to the automobile and light-duty truck NESHAP. The commenter argued that because the floor facilities for existing sources in the TPO category include both waterborne and solventborne technologies, solventborne facilities are faced with disadvantages in meeting the standards. The commenter stated that problems arise because it is not economically feasible to convert to waterborne coatings and waterborne coatings do not meet

all customer needs. The commenter also noted that some operations could not meet the emission limit even with add-on controls. The commenter noted that in the proposal preamble, EPA concluded that waterborne coatings and add-on controls were not feasible as options more stringent than the MACT floor for existing TPO surface coating operations.

Response: We have evaluated the additional data provided on the sources in the TPO subcategory and have corrected the emission rates for these sources where appropriate, and recalculated the MACT floor (the average emission rate of the best-performing five sources for existing sources). The final emission limits reflect those changes, and are higher than the proposed emission limits for new and existing sources. In addition, the data and analysis for each of the MACT floor facilities for each subcategory were checked against the original survey response for each facility and no other corrections were identified that would warrant additional changes to the limits. Since we have adopted the specific data corrections noted by the commenters and have confirmed the other data used in establishing the emission limits for each subcategory, we see no need to

increase the limits by 20 percent as suggested by the commenters.

We disagree with the commenter that the TPO emission limits should be revised to exclude sources using waterborne coatings or add-on controls. The commenter provided no data or information that would indicate that these sources should be put into a separate subcategory or subject to a separate emission limit from those that are using solventborne coatings. The products being coated by the lower-emitting "MACT floor" facilities are similar to those being coated by the rest of the sources in the subcategory. Therefore, these sources need to be included in the MACT analysis for TPO coating and the emission limit for existing TPO sources can be no less stringent than the average emission limit of the five best controlled sources. Existing facilities have the flexibility to meet these limits in a variety of ways, including use of waterborne coatings, use of other low-HAP coating or cleaning materials, add-on controls, or a combination of these. In addition, the final rule includes a compliance alternative for sources subject to the Automobile and Light-Duty Truck NESHAP where compliance with that NESHAP for all plastic part coating

operations constitutes compliance with this rule. Also, the final rule includes a predominant activity compliance alternative suggested by commenters as an alternative for TPO sources that are located at sources that are also subject to other surface coating NESHAP, and also includes the facility-specific emission limit alternative. These three alternatives that were not included in the proposed rule will increase the compliance flexibility for sources that are potentially subject to the TPO emission limit.

Comment: One commenter requested the final rule move marine engine plastic part coatings from the general use category to either a separate category or a category that more accurately reflects performance and durability requirements for marine engine parts. Another commenter believes that the general use emission limits are more stringent than the miscellaneous metal parts emission limits and believes the plastic parts rule will be difficult and expensive to meet. The commenter noted that coating of the large plastic cover on a stern drive or inboard marine engine enhances the appearance of the engine and protects it in a harsh marine environment.

Another commenter stated that it is not technically

feasible for coatings used on personal water craft (PWC) to meet the emission limits from the general use category. The commenter believes PWC coatings need a separate category that more accurately reflects PWC's performance and durability requirements. The PWC are consumer products and the product is judged by its ability to maintain appearance in a harsh marine environment. In this respect, the coating serves as a protective coating for the fiberglass laminate of the PWC hull and deck. The commenter argued that compliant coatings and alternative coating technology, such as electro-deposition coating and powder coating, are not acceptable because they do not have a high-quality finish for high-visibility products. To resolve this issue, one commenter requested the general use emission limits be harmonized and suggested that PWC could meet a limit based on combined compliance with the plastic parts and miscellaneous metal parts general use emission limits. The commenter indicated that compliance would be facilitated if they could offset higher emissions from the plastic part coating operations.

Response: The commenters did not provide data to support the claim that the coatings used on PWC or marine

engine covers could not meet the proposed emission limits, or to support the development of alternative emission limits. Therefore, the final rule does not contain a separate category or emission limit for PWC or marine engine cover coating operations. However, a source coating both metal and plastic parts will be allowed to calculate a facility-specific emission limit based on the relative amount of coating performed on each substrate. This approach will allow facilities that coat PWC or engine covers more flexibility in complying with the limits for their plastic part surface coating operations.

D. Compliance Options for Meeting the Emission Limits

Comment: One commenter stated that the emission rate without add-on controls option allows sources to take credit for HAP included in materials recycled off-site and argued that sources that recycle on-site should receive the same credit. Language in §§63.4541, 63.4551, and 63.4561(a) led the commenter to expect that sources with add-on control also receive credit for recycled coatings, thinners, or cleaning materials in the compliance calculations and that EPA should clarify this in the final rule. Another commenter also questioned

whether sources that recycle materials off-site need to determine the HAP content of the materials received back from the recycler. The commenter noted that sources that recycle on-site do not need to determine the HAP content of the recycled material.

Response: In the compliance calculations in both the emission rate without add-on controls option and the emission rate with add-on controls option, you only need to include the HAP and solids from those materials that are actually consumed in a coating operation for which you are calculating the emission rate. If the unused portion of a material is recovered on-site and used in a second (different) coating operation for which you are separately calculating the emission rate, you do not need to include the amount of HAP and solids contained in the recovered material in the emission rate calculation for the first coating operation. However, you do need to include the HAP and solids from the recovered material in the second coating operation for which you are calculating the emission rate.

If you are calculating a single facility-wide emission rate for all coating operations, you do not need to account for materials that are recovered in one

operation and used in another on-site operation. Instead, you would only need to account for materials that are actually consumed by the whole facility. For example, you would use the assumption that all HAP in the purchased coating materials are emitted on-site (either during their first use or during re-use on site). If you send HAP-containing materials off-site for recycling or disposal, such that a portion of the HAP is not emitted on-site, you can subtract this from the facility-wide emission calculation.

If you recycle materials on-site, you do not need to determine the HAP content of the materials after recycling for use in compliance calculations. Similarly, we have clarified the final rule to specify that if you send materials off-site for recycling, you do not need to determine the HAP content after recycling if you have documentation from the recycler that the material you received back is the exact same material you sent to the recycler. The purpose of the requirements is to show that the recycled materials are not inadvertently amounting to a net increase in HAP emissions from the source.

E. Methods for Determining HAP Content of Coatings

Comment: Two commenters stated that if a facility uses Material Safety Data Sheets to demonstrate compliance, a facility should be allowed to use the average of a reported range for an ingredient in determining compliance. This would avoid a facility having to determine the actual composition and would be consistent with toxics release inventory reporting, according to the commenter. A requirement to use the upper limit of a range would lead to a gross overstatement of the HAP content of materials, according to the commenter. Another commenter argued that to reduce the recordkeeping burden of calculating HAP emissions from hundreds of paints, the HAP emissions for groups of coating materials that are covered in a single Material Safety Data Sheet (such as, paints that differ only in color) should be calculated based on the average composition of the group normalized to a total of 100 percent. The level for each HAP component should be based on the midpoint between the high and low end of the range shown on the Material Safety Data Sheets.

Response: If a range of HAP is presented, it is up to the user to determine the appropriate value that best represents the actual HAP content. The final rule does

not specify whether you must use the upper limit of a range or whether you may use the average or mid-point of a range. It is important to remember, however, that in the event of any inconsistency between formulation data, such as that found on Material Safety Data Sheets, and Method 311 analyses, the Method 311 data will be used in any compliance determinations.

Comment: Several commenters stated that the final rule should allow sources or materials suppliers to use alternatives to EPA Method 24 to determine the amount of HAP that is actually emitted from reactive coatings as they are used. The proposed rule and associated test methods (specifically EPA Method 24) assumed that all HAP contained in coatings or additives are emitted. However, in reactive coatings, some of the HAP species react with other ingredients in the coating to form solids and are not emitted to the atmosphere. Therefore, the amount of HAP emitted can be significantly less than the amount of HAP present in the liquid coating.

Response: An alternative method for determining the fraction of HAP emitted from reactive coatings has been included as an appendix to the final rule. Sources using reactive coatings may use this method for demonstrating

compliance based on the HAP actually emitted, rather than using Method 311, Method 24, or composition data.

F. Notification Requirements

Comment: Two commenters stated that §63.4510 should be revised to exempt sources from the requirement to submit an initial notification if they have already submitted a CAA section 112(j) Part 1 Application to States regarding the Plastic Parts and Products Surface Coating NESHAP.

Response: Sources that have submitted a CAA section 112(j) Part 1 Application to their State permitting agency are still required to submit an initial notification as required by §63.4510. The General Provisions specified in 40 CFR part 63, subpart A, apply to all NESHAP source categories in part 63. Under §63.9(b) of subpart A, the owner or operator of a facility subject to a NESHAP for a given source category must submit an initial, written notification to the EPA within the applicable time period identifying the facility and the specific NESHAP subpart to which the facility is subject. In this case, the owner or operator of a facility with plastic parts and products surface coating operations subject to the NESHAP is required to

prepare and submit an initial notification. Section 112(j) of the CAA requires owners and operators of major sources within a source category to apply for a title V permit should the EPA fail to promulgate emission standards for that source category by the date specified in the regulatory schedule established through section 112(e) of the CAA. The application requirements are specified under 40 CFR part 63, subpart B. Although the subpart B application requirements include some of the same information required for the subpart A initial notification (e.g., facility name, address, brief description of source), the two documents serve different administrative purposes under the NESHAP program. Therefore, it is not appropriate to provide an exemption as requested by the commenter and the final rule requires all sources subject to the rule to submit an initial notification.

G. Compliance Requirements for Sources with Add-on Controls

Comment: Several commenters stated that the compliance calculations in §63.4561(h) should not use an assumption of zero-efficiency when deviations occur. According to the commenter, this approach is burdensome

and penalizes facilities for minor parameter reporting problems, such as temperature read-out malfunctions. The commenter suggested that a facility should be allowed to rebut the presumed zero-efficiency with other available data, such as fuel consumption or manual temperature recordings.

Response: If a source has manually collected parameter data indicating that an emission capture system or control device was operating normally during a parameter monitoring system malfunction, these data could be used to demonstrate compliance with the operating limits and the source would not have to assume zero-percent efficiency.

If a source has data indicating the actual performance of an add-on emission capture system and control device (e.g., data from previous tests measuring percent capture at reduced flow rates or percent destruction efficiency at reduced thermal oxidizer temperatures) during a deviation from operating limits, then the source may use the actual performance in determining compliance, provided that these data were collected during performance tests meeting the applicable requirements for performance tests specified in §63.7 of

the General Provisions. The final rule has been revised to clarify that the actual performance of the add-on control system during a deviation may be used provided the performance testing criteria have been met. The final rule does not allow a source to otherwise estimate the efficiency of a capture system or control device during a deviation because this would provide no assurance of the quality of the data used in the compliance calculation.

V. Summary of Environmental, Energy, and Economic Impacts

For the purpose of assessing potential cost and emission reduction impacts, we assumed that all existing sources would convert to liquid coatings, thinners and/or other additives with lower-HAP content than presently used and would convert to lower-HAP or no-HAP cleaning materials rather than using add-on control devices, except for those already using add-on control devices. We assumed that new sources would use low-HAP coatings and non-HAP cleaning materials.

A. What are the air impacts?

The 1997 nationwide baseline organic HAP emissions for the 202 major source plastic parts and products

surface coating facilities of which EPA is aware are estimated to be 9,820 tpy. Implementation of the final emission limitations would reduce these emissions by approximately 80 percent to 2260 tpy. In addition, the emission limitations will not result in any significant secondary air impacts. We expect that the majority of facilities will switch to lower- or non-organic-HAP-containing materials to comply with the standards, rather than installing add-on control devices. Thus, increases in electricity consumption (which could lead to increases in emissions of nitrogen oxides, sulfur dioxide, carbon monoxide, and carbon dioxide from electric utilities) will be minimal.

B. What are the cost impacts?

The total capital cost (including monitoring costs) for existing sources is estimated to be approximately \$804,000. The nationwide annual cost (including monitoring, recordkeeping, and reporting costs) for existing sources is approximately \$10.7 million per year. Costs for new sources are based on an estimate of six new sources being constructed within 5 years after promulgation of the final standards. The total capital cost (including monitoring costs) for new sources is

\$28,000. The total annual cost (including monitoring, recordkeeping, and reporting costs) for new sources is estimated to be approximately \$194,000 per year.

Cost estimates are based on information available to the Administrator and presented in the economic analysis of the final rule. The costs are calculated assuming that the majority of sources would comply by using lower-HAP- containing or non-HAP coatings and cleaning materials because such materials are generally available and becoming more widely available each year. We assumed that facilities presently equipped with add-on controls would continue to operate those control devices and capture systems and would perform the required performance tests and parameter monitoring.

During development of the proposed emission limitations, limited information was available on the costs associated with the switch to low-HAP or non-HAP coatings and cleaning materials. At proposal, we specifically requested comment on the assumptions and methodology used to determine these costs (67 FR 72295, December 4, 2002), including detailed information on the coatings and cleaning materials (and associated costs) currently being used and the coatings and cleaning

materials (and associated costs) that would be used to comply with the proposed emission limitations, as well as the basis for the cost information. We received no detailed information on these cost elements in the public comments. Therefore, we have not changed the cost estimates since proposal.

C. What are the economic impacts?

We prepared an economic impact analysis (EIA) to provide an estimate of the impacts the proposed rule would have on the plastic parts and products surface coating industry, consumers, and society. Economic impacts were calculated on a facility-specific basis, as well as on a market segment basis (e.g., automobile manufacturing, sporting goods, electronics equipment, etc.). Economic impact indicators examined included price, output, and employment impacts. None of the changes made since proposal have resulted in changes in costs, so the EIA prepared for the proposed rule has not been updated for the final rule.

The EIA showed that the expected price increase for affected plastic parts and products would be less than 0.1 percent as a result of the final standards. Therefore, we do not expect any adverse impact to occur

for those industries that produce or consume plastic parts and products such as home appliances, computer hardware producers, motor vehicle manufacturers, and recreational vehicle manufacturers.

The distribution of costs across plastic parts and products production facilities is slanted toward the lower impact levels with many facilities incurring costs related only to annually recurring monitoring, reporting, and recordkeeping activities. The EIA indicates that these regulatory costs are expected to represent about 0.25 percent of the value of coating services, which should not cause producers to cease or significantly alter their current operations. Hence, no firms or facilities are expected to be at risk of closure because of the final rule. For more information, consult Docket ID No. OAR-2002-0074 (formerly Docket No. A-99-12).

D. What are the non-air health, environmental, and energy impacts?

Based on information from the industry survey responses, we found no indication that the use of lower-HAP or non-HAP content coatings, thinners and other additives, and cleaning materials at existing sources would result in any increase or decrease in non-air

health, environmental, and energy impacts. There would be no change in the utility requirements associated with the use of these materials, so there would be no change in the amount of energy consumed as a result of the material conversion. Because new sources are expected to comply with the final rule through the use of lower-HAP or non-HAP coating technologies rather than add-on control devices, there would be no significant change in energy usage.

We estimate that the emission limitations will have a minimal impact on water quality because only a few facilities are expected to comply by making process modifications or by using add-on control devices that would generate wastewater. However, because many lower-HAP and non-HAP materials are waterborne, an increase in wastewater generation from cleaning activities may result. Although additional wastewater may be generated by facilities switching to waterborne coatings, the amount of wastewater generated by these facilities is not expected to increase significantly. We also estimate that the emission limitations will result in a decrease in the amount of both solid and hazardous waste from facilities, as the majority of facilities will be using

lower-organic-HAP-containing materials which will result in a decrease in the amount of waste materials that will have to be disposed of as hazardous. In addition, we expect that the majority of facilities will comply by using low-HAP or non-HAP materials rather than add-on control devices. Thus, there will be little or no increase in energy usage caused by the operation of add-on controls.

VI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), EPA must determine whether the regulatory action is "significant" and therefore subject to the Office of Management and Budget (OMB) review and the requirements of the Executive Order. The Executive Order defines "significant regulatory action" as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or

communities;

(2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligation of recipients thereof; or

(4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that the final rule is a "significant regulatory action," due to its potential impact on small businesses. The Small Business Administration (SBA) was specifically interested in how the final rule would address the potential for sources to be subject to multiple coating NESHAP. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations will be documented in the public record.

B. Paperwork Reduction Act

The information collection requirements in the final rule have been submitted for approval to OMB under the

Paperwork Reduction Act, 44 U.S.C. 3501, et seq. The information collection requirements are not enforceable until OMB approves them.

The information requirements are based on notification, recordkeeping, and reporting requirements in the General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emission standards. These recordkeeping and reporting requirements are specifically authorized by section 114 of the CAA (42 U.S.C. 7414). All information submitted to EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to EPA policies set forth in 40 CFR part 2, subpart B.

The final rule requires maintaining records of all coatings, thinners and/or other additives, and cleaning materials data and calculations used to determine compliance. This information includes the amount (kg) used during each 12-month compliance period, mass fraction of organic HAP, density, and mass fraction of coating solids.

If an add-on control device is used, records must be kept of the capture efficiency of the capture system,

destruction or removal efficiency of the add-on control device, and the monitored operating parameters. In addition, records must be kept of each calculation of the affected sourcewide emissions for each 12-month compliance period and all data, calculations, test results, and other supporting information used to determine this value.

The monitoring, recordkeeping, and reporting burden in the third year after the effective date of the promulgated rule is estimated to be 119,000 labor hours at a cost of \$5.4 million for new and existing sources. This estimate includes the cost of determining and recording organic HAP content, solids content, and density, as needed, of the regulated materials, and developing a system for determining and recording the amount of each material used and performing the calculations needed for demonstrating compliance. Additionally, for affected sources with existing or newly-installed add-on control systems, the costs also include a one-time performance test and report (with repeat tests where needed) of the add-on control device, one-time purchase and installation of a CPMS, one-time submission of a SSMP with semiannual reports for any

event when the procedures in the plan were not followed, semiannual compliance status reports, and recordkeeping. Total capital/startup costs associated with the monitoring requirements over the 3-year period of the information collection request (ICR) are estimated at \$133,000, with operation and maintenance costs of \$655 per year.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information

unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9. When this ICR is approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the Federal Register to display the OMB control number for the approved information collection requirements contained in the final rule.

C. Regulatory Flexibility Act

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with the final rule.

For purposes of assessing the impact of the final rule on small entities, small entity is defined as: (1) A small business according to SBA size standards by NAICS code ranging from 100 to 1,000 employees or less than \$5 million in annual sales; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; or (3) a small organization that is any not-for-profit enterprise that is independently operated and is not dominant in its field. It should be noted that companies affected by the final rule and the small business definition applied to each industry by NAICS code is that listed in the SBA

size standards (13 CFR part 121).

After considering the economic impacts of the final rule on small entities, EPA has concluded that this action will not have a significant economic impact on a substantial number of small entities. We have determined that 67 of the 130 firms, or 51 percent of the total, affected by the final rule may be small entities. While the number of small firms appears to be a large proportion of the total number of affected firms, the small firms experience 21 percent of the total national compliance cost of \$11 million (1997 \$). Of the 67 affected small firms, three firms are estimated to have compliance costs that exceed 1 percent of their revenues. The maximum impact on any affected small entity is a compliance cost of 1.8 percent of its sales. Finally, while there is a difference between the median compliance cost-to-sales estimates for the affected small and large firms (0.08 percent compared to 0.01 percent for the large firms, and 0.03 percent across all affected firms).

Although the final rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has worked aggressively to minimize the impact of the final rule on small entities.

We solicited input from small entities during the data-gathering phase of the rulemaking. We are promulgating compliance options that give small entities flexibility in choosing the most cost-effective and least burdensome alternative for their operation. For example, a facility could purchase and use lower- or non-HAP coatings, thinners, and cleaning materials (i.e., pollution prevention) that meet the final rule rather than being required to purchase add-on control systems. The lower- or non-HAP option can be demonstrated with minimum burden by using already-maintained purchase and usage records. No testing of materials would be required as the facility owner could show that their coatings meet the emission limits by providing formulation data supplied by the manufacturer.

We are also providing one option that allows compliance demonstrations to be conducted on a rolling 12-month basis, meaning that the facility would each month calculate a 12-month organic HAP emission rate for the previous 12 months to determine compliance. This will give affected small entities extra flexibility in complying with the emission limits since small entities are more likely to use lower monthly volumes and/or a

limited number of materials. Furthermore, we are promulgating the minimum monitoring, recordkeeping, and reporting requirements needed for enforcement and compliance assurance.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law.

Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective, or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The EPA has determined that the final rule does not contain a Federal mandate that may result in expenditures of \$100 million or more to State, local, and tribal governments, in the aggregate, or the private sector in any 1 year. The maximum total annual cost of the final rule for any 1 year has been estimated to be about \$11 million. Thus, the final rule is not subject to the

requirements of sections 202 and 205 of the UMRA. In addition, EPA has determined that the final rule contains no regulatory requirements that might significantly or uniquely affect small governments because it contains no requirements that apply to such governments or impose obligations upon them. Therefore, the final rule is not subject to the requirements of Section 203 of the UMRA.

E. Executive Order 13132: Federalism

Executive Order 13132 (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" are defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government."

The final rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the

distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. Pursuant to the terms of Executive Order 13132, it has been determined that the final rule does not have "federalism implications" because it does not meet the necessary criteria. Thus, Executive Order 13132 does not apply to the final rule.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

Executive Order 13175 (65 FR 67249, November 9, 2000), requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." The final rule does not have tribal implications, as specified in Executive Order 13175. The EPA is not aware of tribal governments that own or operate plastic parts and products surface coating facilities. Thus, Executive Order 13175 does not apply to the final rule.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) is determined to be

"economically significant" as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, EPA must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5-501 of the Executive Order has the potential to influence the regulation. The final rule is not subject to Executive Order 13045 because it does not establish environmental standards based on an assessment of health or safety risks. H. Executive Order 13211: Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use

The final rule is not subject to Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the

supply, distribution, or use of energy. Further, we have concluded that the final rule is not likely to have any adverse energy effects. The vast majority of affected sources are expected to comply with the final rule through pollution prevention rather than add on controls, and therefore, there would be, at most, a nominal impact on energy usage.

I. National Technology Transfer and Advancement Act

As noted in the proposed rule, Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law No. 104-113; §12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards (VCS) in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. The VCS are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by VCS bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable VCS.

The final rule involves technical standards. The EPA cites the following standards in the final rule: EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 3B, 4, 24,

25, 25A, 204, 204A-F, 311, and an alternative method to determine weight volatile matter content and weight solids content for reactive adhesives. Consistent with the NTTAA, EPA conducted searches to identify VCS in addition to these EPA methods/performance specifications. No applicable VCS were identified for EPA Methods 1A, 2A, 2D, 2F, 2G, 204, 204A through 204F, 311, and an alternative method to determine weight volatile matter content and weight solids content for reactive adhesives. The search and review results have been documented and are placed in Docket ID No. OAR-2002-0074 (formerly Docket No. A-99-12).

Six VCS: ASTM D1475-90, ASTM D2369-95, ASTM D3792-91, ASTM D4017-96a, ASTM D4457-85 (Reapproved 1991), and ASTM D5403-93 are already incorporated by reference (IBR) in EPA Method 24. In addition, we are separately specifying the use of ASTM D1475-98, "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products," for measuring the density of each coating, thinner and/or additive, and cleaning material. Five VCS: ASTM D1979-91, ASTM D3432-89, ASTM D4747-87, ASTM D4827-93, and ASTM PS9-94 are IBR in EPA Method 311.

In addition to the VCS EPA uses in the final rule,

the search for emissions measurement procedures identified 14 other VCS. The EPA determined that 11 of these 14 VCS identified for measuring emissions of the HAP or surrogates subject to emission standards in the final rule are impractical alternatives to EPA test methods for the purposes of the final rule. Therefore, EPA does not intend to adopt the VCS for this purpose.

Three of the 14 VCS identified in this search were not available at the time the review was conducted for the purposes of the final rule because they are under development by a VCS body: ASME/BSR MFC 13M, "Flow Measurement by Velocity Traverse," for EPA Method 2 (and possibly 1); ASME/BSR MFC 12M, "Flow in Closed Conduits Using Multiport Averaging Pitot Primary Flowmeters," for EPA Method 2; and ISO/CD 17895, "Paints and Varnishes-Determination of the Volatile Organic Compound Content of Water-based Emulsion Paints," for EPA Method 24.

The EPA requested comment on the compliance demonstration requirements in the proposed rule and specifically invited the public to identify potentially-applicable VCS. We received several comments suggesting the use of an alternative method to Method 24 for measuring emissions from reactive adhesives. This

alternative method has been included in appendix A to the final rule. No other comments were received with respect to potentially applicable VCS.

Sections 63.4541, 63.4551, 63.4561, 63.4565, 63.4566, and appendix A of the final standards list the EPA testing methods and performance specifications included in the final standards. Under 40 CFR 63.7(f) and 63.8(f) of subpart A of the General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any of the EPA testing methods, performance specifications, or procedures.

J. Congressional Review Act

The Congressional Review Act, 5 U.S.C. §801, et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing the final rule and other required information to the United States Senate, the United States House of Representatives, and the

Comptroller General of the United States prior to publication of the final rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is not a major rule as defined by 5 U.S.C. §804(2). The rule will be effective [INSERT DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER].

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances,
Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated:

Marianne Lamont Horinko
Acting Administrator.

For the reasons stated in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is amended as follows:

PART 63--[AMENDED]

1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, et seq.

Subpart A--[AMENDED]

2. Section 63.14 is amended by revising paragraph (b)(26) and adding a new paragraph (b)(34) to read as follows:

§63.14 Incorporations by reference

* * * * *

(b) * * *

(26) ASTM D1475-98, Standard Test Method for Density of Liquid Coatings, Inks, and Related Products, IBR approved for §§63.3941(b)(4), 63.3941(c), 63.3951(c), 63.4141(b)(3), 63.4141(c), and 63.4551(c).

* * * * *

(34) E145-94 (Reapproved 2001), Standard Specification for Gravity-Convection and Forced-Ventilation Ovens, IBR approved for §63.4581, Appendix A.

* * * * *

3. Part 63 is amended by adding subpart PPPP to read as

follows:

Subpart PPPP--National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products

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Tables to Subpart PPPP of Part 63

Table 1 to Subpart PPPP of Part 63--Operating Limits if Using the Emission Rate with Add-on Controls Option

Table 2 to Subpart PPPP of Part 63--Applicability of General Provisions to Subpart PPPP of Part 63

Table 3 to Subpart PPPP of Part 63--Default Organic HAP Mass Fraction for Solvents and Solvent Blends

Table 4 to Subpart PPPP of Part 63--Default Organic HAP Mass Fraction for Petroleum Solvent Groups

Appendix A to Subpart PPPP of Part 63 - Determination of Weight Volatile Matter Content and Weight Solids Content of Reactive Adhesives

Subpart PPPP--National Emission Standards for Hazardous

Air Pollutants for Surface Coating of Plastic Parts and Products

What this Subpart Covers

§63.4480 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for plastic parts and products surface coating facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

§63.4481 Am I subject to this subpart?

(a) Plastic parts and products include, but are not limited to, plastic components of the following types of products as well as the products themselves: motor vehicle parts and accessories for automobiles, trucks, recreational vehicles; sporting and recreational goods; toys; business machines; laboratory and medical equipment; and household and other consumer products. Except as provided in paragraph (c) of this section, the source category to which this subpart applies is the surface coating of any plastic parts or products, as described in paragraph (a)(1) of this section, and it includes the subcategories listed in paragraphs (a)(2) through (5) of this section.

(1) Surface coating is the application of coating to a substrate using, for example, spray guns or dip tanks. When application of coating to a substrate occurs, then surface coating also includes associated activities, such as surface preparation, cleaning, mixing, and storage. However, these activities do not comprise surface coating if they are not directly related to the application of the coating. Coating application with handheld, non-refillable aerosol containers, touch-up markers, marking pens, or the application of paper film or plastic film which may be pre-coated with an adhesive by the manufacturer are not coating operations for the purposes of this subpart.

(2) The general use coating subcategory includes all surface coating operations that are not automotive lamp coating operations, thermoplastic olefin (TPO) coating operations, or assembled on-road vehicle coating operations.

(3) The automotive lamp coating subcategory includes the surface coating of plastic components of the body of an exterior automotive lamp including, but not limited to, headlamps, tail lamps, turn signals, and marker (clearance) lamps; typical coatings used are

reflective argent coatings and clear topcoats. This subcategory does not include the coating of interior automotive lamps, such as dome lamps and instrument panel lamps.

(4) The TPO coating subcategory includes the surface coating of TPO substrates; typical coatings used are adhesion promoters, color coatings, clear coatings and topcoats. The coating of TPO substrates on fully assembled on-road vehicles is not included in the TPO coating subcategory.

(5) The assembled on-road vehicle coating subcategory includes surface coating of fully assembled motor vehicles and trailers intended for on-road use, including, but not limited to: automobiles, light-duty trucks, heavy duty trucks, and busses that have been repaired after a collision or otherwise repainted; fleet delivery trucks; and motor homes and other recreational vehicles (including camping trailers and fifth wheels). This subcategory also includes the incidental coating of parts, such as radiator grilles, that are removed from the fully assembled on-road vehicle to facilitate concurrent coating of all parts associated with the vehicle. The assembled on-road vehicle coating

subcategory does not include the surface coating of plastic parts prior to their attachment to an on-road vehicle on an original equipment manufacturer's (OEM) assembly line. The assembled on-road vehicle coating subcategory also does not include the use of adhesives, sealants, and caulks used in assembling on-road vehicles. Body fillers used to correct small surface defects and rubbing compounds used to remove surface scratches are not considered coatings subject to this subpart.

(b) You are subject to this subpart if you own or operate a new, reconstructed, or existing affected source, as defined in §63.4482, that uses 378 liters (100 gallons (gal)) per year, or more, of coatings that contain hazardous air pollutants (HAP) in the surface coating of plastic parts and products defined in paragraph (a) of this section; and that is a major source, is located at a major source, or is part of a major source of emissions of HAP. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year or any combination of HAP at a rate of

22.68 Mg (25 tons) or more per year. You do not need to include coatings that meet the definition of non-HAP coating contained in §63.4581 in determining whether you use 378 liters (100 gallons) per year, or more, of coatings in the surface coating of plastic parts and products.

(c) This subpart does not apply to surface coating or a coating operation that meets any of the criteria of paragraphs (c)(1) through (16) of this section.

(1) A coating operation conducted at a facility where the facility uses only coatings, thinners and other additives, and cleaning materials that contain no organic HAP, as determined according to §63.3941(a).

(2) Surface coating operations that occur at research or laboratory facilities, or is part of janitorial, building, and facility maintenance operations, or that occur at hobby shops that are operated for noncommercial purposes.

(3) The surface coating of plastic parts and products performed on-site at installations owned or operated by the Armed Forces of the United States (including the Coast Guard and the National Guard of any such State) or the National Aeronautics and Space

Administration, or the surface coating of military munitions manufactured by or for the Armed Forces of the United States (including the Coast Guard and the National Guard of any such State).

(4) Surface coating where plastic is extruded onto plastic parts or products to form a coating.

(5) Surface coating of magnet wire.

(6) In-mold coating operations or gel coating operations in the manufacture of reinforced plastic composite parts that meet the applicability criteria for reinforced plastics composites production (subpart WWWW of this part).

(7) Surface coating of plastic components of wood furniture that meet the applicability criteria for wood furniture manufacturing (subpart JJ of this part).

(8) Surface coating of plastic components of large appliances that meet the applicability criteria for large appliance surface coating (subpart NNNN of this part).

(9) Surface coating of plastic components of metal furniture that meet the applicability criteria for metal furniture surface coating (subpart RRRR of this part).

(10) Surface coating of plastic components of wood building products that meet the applicability criteria

for wood building products surface coating (subpart QQQQ of this part).

(11) Surface coating of plastic components of aerospace vehicles that meet the applicability criteria for aerospace manufacturing and rework (40 CFR part 63, subpart GG).

(12) Surface coating of plastic parts intended for use in an aerospace vehicle or component using specialty coatings as defined in appendix A to subpart GG of this part.

(13) Surface coating of plastic components of ships that meet the applicability criteria for shipbuilding and ship repair (subpart II of this part).

(14) Surface coating of plastic using a web coating process that meets the applicability criteria for paper and other web coating (subpart JJJJ of this part).

(15) Surface coating of fiberglass boats or parts of fiberglass boats (including, but not limited to, the use of assembly adhesives) where the facility meets the applicability criteria for boat manufacturing (subpart VVVV of this part), except where the surface coating of the boat is a post-mold coating operation performed on personal watercraft or parts of personal watercraft.

This subpart does apply to post-mold coating operations performed on personal watercraft and parts of personal watercraft.

(16) Surface coating of plastic components of automobiles and light-duty trucks that meet the applicability criteria for the Automobiles and Light-Duty Trucks Surface Coating NESHAP (40 CFR part 63, subpart IIII)¹.

(d) If you perform surface coating of plastic parts or products that meet the applicability criteria for both the Automobiles and Light-Duty Trucks NESHAP (40 CFR part 63, subpart IIII)² and these NESHAP, then you may comply with the requirements of the Automobiles and Light-Duty Trucks NESHAP for the surface coating of all your plastic parts used in automobile or light-duty truck manufacturing in lieu of complying with each subpart separately. Surface coating operations on plastic parts or products not intended for use in automobiles or light-duty trucks (for example, parts for motorcycles or lawn mowers) cannot be made part of your affected source under subpart IIII of this part.

¹ Under development.

² Under Development.

(e) If you own or operate an affected source that meets the applicability criteria of this subpart and at the same facility you also perform surface coating that meets the applicability criteria of any other surface coating NESHAP in this part, except for plastic parts surface coating that meets the applicability criteria of the Automobiles and Light-Duty Trucks NESHAP (subpart IIII of this part), you may choose to comply as specified in paragraph (e)(1), (2), or (3) of this section.

(1) You may have each surface coating operation that meets the applicability criteria of a separate NESHAP comply with that NESHAP separately.

(2) You may comply with the emission limitation representing the predominant surface coating activity at your facility, as determined according to paragraphs (e)(2)(i) and (ii) of this section. However, you may not establish assembled on-road vehicle and automotive lamp coating operations as the predominant activity.

(i) If a surface coating operation accounts for 90 percent or more of the surface coating activity at your facility (that is, the predominant activity), then compliance with the emission limitations of the predominant activity for all surface coating operations

constitutes compliance with these and other applicable surface coating NESHAP. In determining predominant activity, you must include coating activities that meet the applicability criteria of other surface coating NESHAP and constitute more than 1 percent of total coating activities at your facility. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than 1 percent of coating activities need not be included in the determination of predominant activity but must be included in the compliance calculation.

(ii) You must use kilogram (kg) (pound (lb)) of solids used as a measure of relative surface coating activity over a representative period of operation. You may estimate the relative mass of coating solids used from parameters other than coating consumption and mass solids content (e.g., design specifications for the parts or products coated and the number of items produced). The determination of predominant activity must accurately reflect current and projected coating operations and must be verifiable through appropriate documentation. The use of parameters other than coating consumption and mass solids content must be approved by the Administrator.

You may use data for any reasonable time period of at least 1 year in determining the relative amount of coating activity, as long as they represent the way the source will continue to operate in the future and are approved by the Administrator. You must determine the predominant activity at your facility and submit the results of that determination with the initial notification required by §63.4510(b). You must also determine predominant activity annually and include the determination in the next semi-annual compliance report required by §63.4520(a).

(3) You may comply with a facility-specific emission limit calculated from the relative amount of coating activity that is subject to each emission limit. If you elect to comply using the facility-specific emission limit alternative, then compliance with the facility-specific emission limit and the emission limitations in this subpart for all surface coating operations constitutes compliance with this and other applicable surface coating NESHAP. The procedures for calculating the facility-specific emission limit are specified in §63.4490. In calculating a facility-specific emission limit, you must include coating

activities that meet the applicability criteria of other surface coating NESHAP and constitute more than 1 percent of total coating activities at your facility. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than 1 percent of total coating activities need not be included in the calculation of the facility-specific emission limit but must be included in the compliance calculations.

§63.4482 What parts of my plant does this subpart cover?

(a) This subpart applies to each new, reconstructed, and existing affected source within each of the four subcategories listed in §63.4481(a).

(b) The affected source is the collection of all of the items listed in paragraphs (b)(1) through (4) of this section that are used for surface coating of plastic parts and products within each subcategory.

(1) All coating operations as defined in §63.4581;

(2) All storage containers and mixing vessels in which coatings, thinners and/or other additives, and cleaning materials are stored or mixed;

(3) All manual and automated equipment and containers used for conveying coatings, thinners and/or other additives, and cleaning materials; and

(4) All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation.

(c) An affected source is a new source if it meets the criteria in paragraph (c)(1) of this section and the criteria in either paragraph (c)(2) or (3) of this section.

(1) You commenced the construction of the source after December 4, 2002 by installing new coating equipment.

(2) The new coating equipment is used to coat plastic parts and products at a source where no plastic parts surface coating was previously performed.

(3) The new coating equipment is used to perform plastic parts and products coating in a subcategory that was not previously performed.

(d) An affected source is reconstructed if you meet the criteria as defined in §63.2.

(e) An affected source is existing if it is not new or reconstructed.

§63.4483 When do I have to comply with this subpart?

The date by which you must comply with this subpart is called the compliance date. The compliance date for

each type of affected source is specified in paragraphs (a) through (c) of this section. The compliance date begins the initial compliance period during which you conduct the initial compliance demonstration described in §§63.4540, 63.4550, and 63.4560.

(a) For a new or reconstructed affected source, the compliance date is the applicable date in paragraph (a)(1) or (2) of this section:

(1) If the initial startup of your new or reconstructed affected source is before [DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER], the compliance date is [DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER].

(2) If the initial startup of your new or reconstructed affected source occurs after [DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER], the compliance date is the date of initial startup of your affected source.

(b) For an existing affected source, the compliance date is the date 3 years after [DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER].

(c) For an area source that increases its emissions or its potential to emit such that it becomes a major

source of HAP emissions, the compliance date is specified in paragraphs (c)(1) and (2) of this section.

(1) For any portion of the source that becomes a new or reconstructed affected source subject to this subpart, the compliance date is the date of initial startup of the affected source or [DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER], whichever is later.

(2) For any portion of the source that becomes an existing affected source subject to this subpart, the compliance date is the date 1 year after the area source becomes a major source or 3 years after [DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER], whichever is later.

(d) You must meet the notification requirements in §63.4510 according to the dates specified in that section and in subpart A of this part. Some of the notifications must be submitted before the compliance dates described in paragraphs (a) through (c) of this section.

Emission Limitations

§63.4490 What emission limits must I meet?

(a) For a new or reconstructed affected source, you must limit organic HAP emissions to the atmosphere from

the affected source to the applicable limit specified in paragraphs (a)(1) through (4) of this section, except as specified in paragraph (c) of this section, determined according to the requirements in §63.4541, §63.4551, or §63.4561.

(1) For each new general use coating affected source, limit organic HAP emissions to no more than 0.16 kg (0.16 lb) organic HAP emitted per kg (lb) coating solids used during each 12-month compliance period.

(2) For each new automotive lamp coating affected source, limit organic HAP emissions to no more than 0.26 kg (0.26 lb) organic HAP emitted per kg (lb) coating solids used during each 12-month compliance period.

(3) For each new TPO coating affected source, limit organic HAP emissions to no more than 0.22 kg (0.22 lb) organic HAP emitted per kg (lb) coating solids used during each 12-month compliance period.

(4) For each new assembled on-road vehicle coating affected source, limit organic HAP emissions to no more than 1.34 kg (1.34 lb) organic HAP emitted per kg (lb) coating solids used during each 12-month compliance period.

(b) For an existing affected source, you must limit

organic HAP emissions to the atmosphere from the affected source to the applicable limit specified in paragraphs (b)(1) through (4) of this section, except as specified in paragraph (c) of this section, determined according to the requirements in §63.4541, §63.4551, or §63.4561.

(1) For each existing general use coating affected source, limit organic HAP emissions to no more than 0.16 kg (0.16 lb) organic HAP emitted per kg (lb) coating solids used during each 12-month compliance period.

(2) For each existing automotive lamp coating affected source, limit organic HAP emissions to no more than 0.45 kg (0.45 lb) organic HAP emitted per kg (lb) coating solids used during each 12-month compliance period.

(3) For each existing TPO coating affected source, limit organic HAP emissions to no more than 0.26 kg (0.26 lb) organic HAP emitted per kg (lb) coating solids used during each 12-month compliance period.

(4) For each existing assembled on-road vehicle coating affected source, limit organic HAP emissions to no more than 1.34 kg (1.34 lb) organic HAP emitted per kg (lb) coating solids used during each 12-month compliance period.

(c) If your facility's surface coating operations meet the applicability criteria of more than one of the subcategory emission limits specified in paragraphs (a) or (b) of this section, you may comply separately with each subcategory emission limit or comply using one of the alternatives in paragraph (c)(1) or (2) of this section.

(1) If the general use or TPO surface coating operations subject to only one of the emission limits specified in paragraphs (a)(1), (3), (b)(1), or (3) of this section account for 90 percent or more of the surface coating activity at your facility (i.e., it is the predominant activity at your facility), then compliance with that emission limitation for all surface coating operations constitutes compliance with the other applicable emission limitations. You must use kg (lb) of solids used as a measure of relative surface coating activity over a representative period of operation. You may estimate the relative mass of coating solids used from parameters other than coating consumption and mass solids content (e.g., design specifications for the parts or products coated and the number of items produced). The determination of predominant activity must accurately

reflect current and projected coating operations and must be verifiable through appropriate documentation. The use of parameters other than coating consumption and mass solids content must be approved by the Administrator. You may use data for any reasonable time period of at least 1 year in determining the relative amount of coating activity, as long as they represent the way the source will continue to operate in the future and are approved by the Administrator. You must determine the predominant activity at your facility and submit the results of that determination with the initial notification required by §63.4510(b). Additionally, you must determine the facility's predominant activity annually and include the determination in the next semi-annual compliance report required by §63.4520(a).

(2) You may calculate and comply with a facility-specific emission limit as described in paragraphs (c)(2)(i) through (iii) of this section. If you elect to comply using the facility-specific emission limit alternative, then compliance with the facility-specific emission limit and the emission limitations in this subpart for all surface coating operations constitutes compliance with this and other applicable surface coating

NESHAP. In calculating a facility-specific emission limit, you must include coating activities that meet the applicability criteria of the other subcategories and constitute more than 1 percent of total coating activities. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than 1 percent of coating activities need not be included in the determination of predominant activity but must be included in the compliance calculation.

(i) You are required to calculate the facility-specific emission limit for your facility when you submit the notification of compliance status required in §63.4510(c), and on a monthly basis afterward using the coating data for the relevant 12-month compliance period.

(ii) Use Equation 1 of this section to calculate the facility-specific emission limit for your surface coating operations for each 12-month compliance period.

$$\text{Facility - Specific Emission Limit} = \frac{\sum_{i=1}^n (\text{Limit}_i)(\text{Solids}_i)}{\sum_{i=1}^n (\text{Solids}_i)} \quad (\text{Eq. 1})$$

Where:

Facility-specific emission limit	=	Facility-specific emission limit for each 12-month compliance period, kg (lb) organic HAP per kg (lb) coating solids used.
Limit _i	=	The new source or existing source emission limit applicable to coating operation, i, included in the facility-specific emission limit, converted to kg (lb) organic HAP per kg (lb) coating solids used, if the emission limit is not already in those units. All emission limits included in the facility-specific emission limit must be in the same units.
Solids _i	=	The kg (lb) of solids used in coating operation, i, in the 12- month compliance period that is subject to emission limit, i. You may estimate the mass of coating solids used from parameters other than coating consumption and mass solids content (e.g., design specifications for the parts or products coated and the number of items produced). The use of parameters other than coating consumption and mass solids content must be approved by the Administrator.
n	=	The number of different coating operations included in the facility-specific emission limit.

(iii) If you need to convert an emission limit in another surface coating NESHAP from kg (lb) organic HAP per liter (gallon) coating solids used to kg (lb) organic

HAP per kg (lb) coating solids used, you must use the default solids density of 1.50 kg solids per liter coating solids (12.5 lb solids per gal solids).

§63.4491 What are my options for meeting the emission limits?

You must include all coatings (as defined in §63.4581), thinners and/or other additives, and cleaning materials used in the affected source when determining whether the organic HAP emission rate is equal to or less than the applicable emission limit in §63.4490. To make this determination, you must use at least one of the three compliance options listed in paragraphs (a) through (c) of this section. You may apply any of the compliance options to an individual coating operation, or to multiple coating operations as a group, or to the entire affected source. You may use different compliance options for different coating operations, or at different times on the same coating operation. You may employ different compliance options when different coatings are applied to the same part, or when the same coating is applied to different parts. However, you may not use different compliance options at the same time on the same coating operation. If you switch between compliance

options for any coating operation or group of coating operations, you must document this switch as required by §63.4530(c), and you must report it in the next semiannual compliance report required in §63.4520.

(a) Compliant material option. Demonstrate that the organic HAP content of each coating used in the coating operation(s) is less than or equal to the applicable emission limit in §63.4490, and that each thinner and/or other additive, and cleaning material used contains no organic HAP. You must meet all the requirements of §§63.4540, 63.4541, and 63.4542 to demonstrate compliance with the applicable emission limit using this option.

(b) Emission rate without add-on controls option. Demonstrate that, based on the coatings, thinners and/or other additives, and cleaning materials used in the coating operation(s), the organic HAP emission rate for the coating operation(s) is less than or equal to the applicable emission limit in §63.4490, calculated as a rolling 12-month emission rate and determined on a monthly basis. You must meet all the requirements of §§63.4550, 63.4551, and 63.4552 to demonstrate compliance with the emission limit using this option.

(c) Emission rate with add-on controls option.

Demonstrate that, based on the coatings, thinners and/or other additives, and cleaning materials used in the coating operation(s), and the emissions reductions achieved by emission capture systems and add-on controls, the organic HAP emission rate for the coating operation(s) is less than or equal to the applicable emission limit in §63.4490, calculated as a rolling 12-month emission rate and determined on a monthly basis. If you use this compliance option, you must also demonstrate that all emission capture systems and add-on control devices for the coating operation(s) meet the operating limits required in §63.4492, except for solvent recovery systems for which you conduct liquid-liquid material balances according to §63.4561(j), and that you meet the work practice standards required in §63.4493. You must meet all the requirements of §§63.4560 through 63.4568 to demonstrate compliance with the emission limits, operating limits, and work practice standards using this option.

§63.4492 What operating limits must I meet?

(a) For any coating operation(s) on which you use the compliant material option or the emission rate

without add-on controls option, you are not required to meet any operating limits.

(b) For any controlled coating operation(s) on which you use the emission rate with add-on controls option, except those for which you use a solvent recovery system and conduct a liquid-liquid material balance according to §63.4561(j), you must meet the operating limits specified in Table 1 to this subpart. These operating limits apply to the emission capture and control systems on the coating operation(s) for which you use this option, and you must establish the operating limits during the performance test according to the requirements in §63.4567. You must meet the operating limits at all times after you establish them.

(c) If you use an add-on control device other than those listed in Table 1 to this subpart, or wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of alternative monitoring under §63.8(f).

§63.4493 What work practice standards must I meet?

(a) For any coating operation(s) on which you use the compliant material option or the emission rate

without add-on controls option, you are not required to meet any work practice standards.

(b) If you use the emission rate with add-on controls option, you must develop and implement a work practice plan to minimize organic HAP emissions from the storage, mixing, and conveying of coatings, thinners and/or other additives, and cleaning materials used in, and waste materials generated by the controlled coating operation(s) for which you use this option; or you must meet an alternative standard as provided in paragraph (c) of this section. The plan must specify practices and procedures to ensure that, at a minimum, the elements specified in paragraphs (b)(1) through (5) of this section are implemented.

(1) All organic-HAP-containing coatings, thinners and/or other additives, cleaning materials, and waste materials must be stored in closed containers.

(2) Spills of organic-HAP-containing coatings, thinners and/or other additives, cleaning materials, and waste materials must be minimized.

(3) Organic-HAP-containing coatings, thinners and/or other additives, cleaning materials, and waste materials must be conveyed from one location to another

in closed containers or pipes.

(4) Mixing vessels which contain organic-HAP-containing coatings and other materials must be closed except when adding to, removing, or mixing the contents.

(5) Emissions of organic HAP must be minimized during cleaning of storage, mixing, and conveying equipment.

(c) As provided in §63.6(g), we, the U.S. Environmental Protection Agency, may choose to grant you permission to use an alternative to the work practice standards in this section.

General Compliance Requirements

§63.4500 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations in this subpart as specified in paragraphs (a)(1) and (2) of this section.

(1) Any coating operation(s) for which you use the compliant material option or the emission rate without add-on controls option, as specified in §63.4491(a) and (b), must be in compliance with the applicable emission limit in §63.4490 at all times.

(2) Any coating operation(s) for which you use the

emission rate with add-on controls option, as specified in §63.4491(c), must be in compliance with the emission limitations as specified in paragraphs (a)(2)(i) through (iii) of this section.

(i) The coating operation(s) must be in compliance with the applicable emission limit in §63.4490 at all times except during periods of startup, shutdown, and malfunction.

(ii) The coating operation(s) must be in compliance with the operating limits for emission capture systems and add-on control devices required by §63.4492 at all times except during periods of startup, shutdown, and malfunction, and except for solvent recovery systems for which you conduct liquid-liquid material balances according to §63.4561(j).

(iii) The coating operation(s) must be in compliance with the work practice standards in §63.4493 at all times.

(b) You must always operate and maintain your affected source, including all air pollution control and monitoring equipment you use for purposes of complying with this subpart, according to the provisions in §63.6(e)(1)(i).

(c) If your affected source uses an emission capture system and add-on control device, you must develop and implement a written startup, shutdown, and malfunction plan according to the provisions in §63.6(e)(3). The plan must address the startup, shutdown, and corrective actions in the event of a malfunction of the emission capture system or the add-on control device. The plan must also address any coating operation equipment that may cause increased emissions or that would affect capture efficiency if the process equipment malfunctions, such as conveyors that move parts among enclosures.

§63.4501 What parts of the General Provisions apply to me?

Table 2 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

Notifications, Reports, and Records

§63.4510 What notifications must I submit?

(a) General. You must submit the notifications in §§63.7(b) and (c), 63.8(f)(4), and 63.9(b) through (e) and (h) that apply to you by the dates specified in those sections, except as provided in paragraphs (b) and (c) of this section.

(b) Initial notification. You must submit the initial notification required by §63.9(b) for a new or reconstructed affected source no later than 120 days after initial startup or 120 days after [DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER], whichever is later. For an existing affected source, you must submit the initial notification no later than 1 year after [DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER]. If you are using compliance with the Automobiles and Light-Duty Trucks NESHAP (subpart IIII of this part) under §63.4881(d) to constitute compliance with this subpart for your plastic part coating operations, then you must include a statement to this effect in your initial notification and no other notifications are required under this subpart. If you are complying with another NESHAP that constitutes the predominant activity at your facility under §63.4481(e)(2) to constitute compliance with this subpart for your plastic coating operations, then you must include a statement to this effect in your initial notification and no other notifications are required under this subpart.

(c) Notification of compliance status. You must

submit the notification of compliance status required by §63.9(h) no later than 30 calendar days following the end of the initial compliance period described in §63.4540, §63.4550, or §63.4560 that applies to your affected source. The notification of compliance status must contain the information specified in paragraphs (c)(1) through (11) of this section and in §63.9(h).

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of the report and beginning and ending dates of the reporting period. The reporting period is the initial compliance period described in §63.4540, §63.4550, or §63.4560 that applies to your affected source.

(4) Identification of the compliance option or options specified in §63.4491 that you used on each coating operation in the affected source during the initial compliance period.

(5) Statement of whether or not the affected source

achieved the emission limitations for the initial compliance period.

(6) If you had a deviation, include the information in paragraphs (c)(6)(i) and (ii) of this section.

(i) A description and statement of the cause of the deviation.

(ii) If you failed to meet the applicable emission limit in §63.4490, include all the calculations you used to determine the kg (lb) organic HAP emitted per kg (lb) coating solids used. You do not need to submit information provided by the materials' suppliers or manufacturers, or test reports.

(7) For each of the data items listed in paragraphs (c)(7)(i) through (iv) of this section that is required by the compliance option(s) you used to demonstrate compliance with the emission limit, include an example of how you determined the value, including calculations and supporting data. Supporting data may include a copy of the information provided by the supplier or manufacturer of the example coating or material, or a summary of the results of testing conducted according to §63.4541(a), (b), or (c). You do not need to submit copies of any test reports.

(i) Mass fraction of organic HAP for one coating, for one thinner and/or other additive, and for one cleaning material.

(ii) Mass fraction of coating solids for one coating.

(iii) Density for one coating, one thinner and/or other additive, and one cleaning material, except that if you use the compliant material option, only the example coating density is required.

(iv) The amount of waste materials and the mass of organic HAP contained in the waste materials for which you are claiming an allowance in Equation 1 of §63.4551.

(8) The calculation of kg (lb) organic HAP emitted per kg (lb) coating solids used for the compliance option(s) you used, as specified in paragraphs (c)(8)(i) through (iii) of this section.

(i) For the compliant material option, provide an example calculation of the organic HAP content for one coating, using Equation 1 of §63.4541.

(ii) For the emission rate without add-on controls option, provide the calculation of the total mass of organic HAP emissions for each month; the calculation of the total mass of coating solids used each month; and the

calculation of the 12-month organic HAP emission rate using Equations 1 and 1A through 1C, 2, and 3, respectively, of §63.4551.

(iii) For the emission rate with add-on controls option, provide the calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month, using Equations 1 and 1A through 1C of §63.4551; the calculation of the total mass of coating solids used each month using Equation 2 of §63.4551; the mass of organic HAP emission reduction each month by emission capture systems and add-on control devices using Equations 1 and 1A through 1D of §63.4561 and Equations 2, 3, and 3A through 3C of §63.4561, as applicable; the calculation of the total mass of organic HAP emissions each month using Equation 4 of §63.4561; and the calculation of the 12-month organic HAP emission rate using Equation 5 of §63.4561.

(9) For the emission rate with add-on controls option, you must include the information specified in paragraphs (c)(9)(i) through (iv) of this section, except that the requirements in paragraphs (c)(9)(i) through (iii) of this section do not apply to solvent recovery

systems for which you conduct liquid-liquid material balances according to §63.4561(j).

(i) For each emission capture system, a summary of the data and copies of the calculations supporting the determination that the emission capture system is a permanent total enclosure (PTE) or a measurement of the emission capture system efficiency. Include a description of the protocol followed for measuring capture efficiency, summaries of any capture efficiency tests conducted, and any calculations supporting the capture efficiency determination. If you use the data quality objective (DQO) or lower confidence limit (LCL) approach, you must also include the statistical calculations to show you meet the DQO or LCL criteria in appendix A to subpart KK of this part. You do not need to submit complete test reports.

(ii) A summary of the results of each add-on control device performance test. You do not need to submit complete test reports.

(iii) A list of each emission capture system's and add-on control device's operating limits and a summary of the data used to calculate those limits.

(iv) A statement of whether or not you developed

and implemented the work practice plan required by §63.4493.

(10) If you are complying with a single emission limit representing the predominant activity under §63.4490(c)(1), include the calculations and supporting information used to demonstrate that this emission limit represents the predominant activity as specified in §63.4490(c)(1).

(11) If you are complying with a facility-specific emission limit under §63.4490(c)(2), include the calculation of the facility-specific emission limit and any supporting information as specified in §63.4490(c)(2).

§63.4520 What reports must I submit?

(a) Semiannual compliance reports. You must submit semiannual compliance reports for each affected source according to the requirements of paragraphs (a)(1) through (7) of this section. The semiannual compliance reporting requirements may be satisfied by reports required under other parts of the Clean Air Act (CAA), as specified in paragraph (a)(2) of this section.

(1) Dates. Unless the Administrator has approved or agreed to a different schedule for submission of

reports under §63.10(a), you must prepare and submit each semiannual compliance report according to the dates specified in paragraphs (a)(1)(i) through (iv) of this section. Note that the information reported for each of the months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

(i) The first semiannual compliance report must cover the first semiannual reporting period which begins the day after the end of the initial compliance period described in §63.4540, §63.4550, or §63.4560 that applies to your affected source and ends on June 30 or December 31, whichever date is the first date following the end of the initial compliance period.

(ii) Each subsequent semiannual compliance report must cover the subsequent semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(iii) Each semiannual compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(iv) For each affected source that is subject to

permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the date specified in paragraph (a)(1)(iii) of this section.

(2) Inclusion with title V report. Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a semiannual compliance report pursuant to this section along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the semiannual compliance report includes all required information concerning deviations from any emission limitation in this subpart, its submission will be deemed to satisfy any obligation to report the same deviations

in the semiannual monitoring report. However, submission of a semiannual compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permitting authority.

(3) General requirements. The semiannual compliance report must contain the information specified in paragraphs (a)(3)(i) through (vii) of this section, and the information specified in paragraphs (a)(4) through (7) and (c)(1) of this section that is applicable to your affected source.

(i) Company name and address.

(ii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(iii) Date of report and beginning and ending dates of the reporting period. The reporting period is the 6-month period ending on June 30 or December 31. Note that the information reported for each of the 6 months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

(iv) Identification of the compliance option or

options specified in §63.4491 that you used on each coating operation during the reporting period. If you switched between compliance options during the reporting period, you must report the beginning and ending dates for each option you used.

(v) If you used the emission rate without add-on controls or the emission rate with add-on controls compliance option (§63.4491(b) or (c)), the calculation results for each rolling 12-month organic HAP emission rate during the 6-month reporting period.

(vi) If you used the predominant activity alternative (§63.4490(c)(1)), include the annual determination of predominant activity if it was not included in the previous semi-annual compliance report.

(vii) If you used the facility-specific emission limit alternative (§63.4490(c)(2)), include the calculation of the facility-specific emission limit for each 12-month compliance period during the 6-month reporting period.

(4) No deviations. If there were no deviations from the emission limitations in §§63.4490, 63.4492, and 63.4493 that apply to you, the semiannual compliance report must include a statement that there were no

deviations from the emission limitations during the reporting period. If you used the emission rate with add-on controls option and there were no periods during which the continuous parameter monitoring systems (CPMS) were out-of-control as specified in §63.8(c)(7), the semiannual compliance report must include a statement that there were no periods during which the CPMS were out-of-control during the reporting period.

(5) Deviations: Compliant material option. If you used the compliant material option and there was a deviation from the applicable organic HAP content requirements in §63.4490, the semiannual compliance report must contain the information in paragraphs (a)(5)(i) through (iv) of this section.

(i) Identification of each coating used that deviated from the applicable emission limit, and each thinner and/or other additive, and cleaning material used that contained organic HAP, and the dates and time periods each was used.

(ii) The calculation of the organic HAP content (using Equation 1 of §63.4541) for each coating identified in paragraph (a)(5)(i) of this section. You do not need to submit background data supporting this

calculation (e.g., information provided by coating suppliers or manufacturers, or test reports).

(iii) The determination of mass fraction of organic HAP for each thinner and/or other additive, and cleaning material identified in paragraph (a)(5)(i) of this section. You do not need to submit background data supporting this calculation (e.g., information provided by material suppliers or manufacturers, or test reports).

(iv) A statement of the cause of each deviation.

(6) Deviations: Emission rate without add-on controls option. If you used the emission rate without add-on controls option and there was a deviation from the applicable emission limit in §63.4490, the semiannual compliance report must contain the information in paragraphs (a)(6)(i) through (iii) of this section.

(i) The beginning and ending dates of each compliance period during which the 12-month organic HAP emission rate exceeded the applicable emission limit in §63.4490.

(ii) The calculations used to determine the 12-month organic HAP emission rate for the compliance period in which the deviation occurred. You must submit the calculations for Equations 1, 1A through 1C, 2, and 3

of §63.4551; and if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.4551(e)(4). You do not need to submit background data supporting these calculations (e.g., information provided by materials suppliers or manufacturers, or test reports).

(iii) A statement of the cause of each deviation.

(7) Deviations: Emission rate with add-on controls option. If you used the emission rate with add-on controls option and there was a deviation from an emission limitation (including any periods when emissions bypassed the add-on control device and were diverted to the atmosphere), the semiannual compliance report must contain the information in paragraphs (a)(7)(i) through (xiv) of this section. This includes periods of startup, shutdown, and malfunction during which deviations occurred.

(i) The beginning and ending dates of each compliance period during which the 12-month organic HAP emission rate exceeded the applicable emission limit in §63.4490.

(ii) The calculations used to determine the 12-month organic HAP emission rate for each compliance

period in which a deviation occurred. You must provide the calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month using Equations 1 and 1A through 1C of §63.4551; and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.4551(e)(4); the calculation of the total mass of coating solids used each month using Equation 2 of §63.4551; the calculation of the mass of organic HAP emission reduction each month by emission capture systems and add-on control devices using Equations 1 and 1A through 1D of §63.4561, and Equations 2, 3, and 3A through 3C of §63.4561, as applicable; the calculation of the total mass of organic HAP emissions each month using Equation 4 of §63.4561; and the calculation of the 12-month organic HAP emission rate using Equation 5 of §63.4561. You do not need to submit the background data supporting these calculations (e.g., information provided by materials suppliers or manufacturers, or test reports).

(iii) The date and time that each malfunction started and stopped.

(iv) A brief description of the CPMS.

(v) The date of the latest CPMS certification or audit.

(vi) The date and time that each CPMS was inoperative, except for zero (low-level) and high-level checks.

(vii) The date, time, and duration that each CPMS was out-of-control, including the information in §63.8(c)(8).

(viii) The date and time period of each deviation from an operating limit in Table 1 to this subpart; date and time period of any bypass of the add-on control device; and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(ix) A summary of the total duration of each deviation from an operating limit in Table 1 to this subpart and each bypass of the add-on control device during the semiannual reporting period, and the total duration as a percent of the total source operating time during that semiannual reporting period.

(x) A breakdown of the total duration of the deviations from the operating limits in Table 1 of this

subpart and bypasses of the add-on control device during the semiannual reporting period into those that were due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(xi) A summary of the total duration of CPMS downtime during the semiannual reporting period and the total duration of CPMS downtime as a percent of the total source operating time during that semiannual reporting period.

(xii) A description of any changes in the CPMS, coating operation, emission capture system, or add-on control device since the last semiannual reporting period.

(xiii) For each deviation from the work practice standards, a description of the deviation, the date and time period of the deviation, and the actions you took to correct the deviation.

(xiv) A statement of the cause of each deviation.

(b) Performance test reports. If you use the emission rate with add-on controls option, you must submit reports of performance test results for emission capture systems and add-on control devices no later than 60 days after completing the tests as specified in

§63.10(d)(2).

(c) Startup, shutdown, malfunction reports. If you used the emission rate with add-on controls option and you had a startup, shutdown, or malfunction during the semiannual reporting period, you must submit the reports specified in paragraphs (c)(1) and (2) of this section.

(1) If your actions were consistent with your startup, shutdown, and malfunction plan, you must include the information specified in §63.10(d) in the semiannual compliance report required by paragraph (a) of this section.

(2) If your actions were not consistent with your startup, shutdown, and malfunction plan, you must submit an immediate startup, shutdown, and malfunction report as described in paragraphs (c)(2)(i) and (ii) of this section.

(i) You must describe the actions taken during the event in a report delivered by facsimile, telephone, or other means to the Administrator within 2 working days after starting actions that are inconsistent with the plan.

(ii) You must submit a letter to the Administrator within 7 working days after the end of the event, unless

you have made alternative arrangements with the Administrator as specified in §63.10(d)(5)(ii). The letter must contain the information specified in §63.10(d)(5)(ii).

§63.4530 What records must I keep?

You must collect and keep records of the data and information specified in this section. Failure to collect and keep these records is a deviation from the applicable standard.

(a) A copy of each notification and report that you submitted to comply with this subpart, and the documentation supporting each notification and report. If you are using the predominant activity alternative under §63.4490(c), you must keep records of the data and calculations used to determine the predominant activity. If you are using the facility-specific emission limit alternative under §63.4490(c), you must keep records of the data used to calculate the facility-specific emission limit for the initial compliance demonstration. You must also keep records of any data used in each annual predominant activity determination and in the calculation of the facility-specific emission limit for each 12-month compliance period included in the semi-annual compliance

reports.

(b) A current copy of information provided by materials suppliers or manufacturers, such as manufacturer's formulation data, or test data used to determine the mass fraction of organic HAP and density for each coating, thinner and/or other additive, and cleaning material, and the mass fraction of coating solids for each coating. If you conducted testing to determine mass fraction of organic HAP, density, or mass fraction of coating solids, you must keep a copy of the complete test report. If you use information provided to you by the manufacturer or supplier of the material that was based on testing, you must keep the summary sheet of results provided to you by the manufacturer or supplier. You are not required to obtain the test report or other supporting documentation from the manufacturer or supplier.

(c) For each compliance period, the records specified in paragraphs (c)(1) through (4) of this section.

(1) A record of the coating operations on which you used each compliance option and the time periods (beginning and ending dates and times) for each option

you used.

(2) For the compliant material option, a record of the calculation of the organic HAP content for each coating, using Equation 1 of §63.4541.

(3) For the emission rate without add-on controls option, a record of the calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month using Equations 1, 1A through 1C, and 2 of §63.4551 and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.4551(e)(4); the calculation of the total mass of coating solids used each month using Equation 2 of §63.4551; and the calculation of each 12-month organic HAP emission rate using Equation 3 of §63.4551.

(4) For the emission rate with add-on controls option, records of the calculations specified in paragraphs (c)(4)(i) through (v) of this section.

(i) The calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month using Equations 1 and 1A through 1C of §63.4551; and, if applicable, the calculation used to determine mass of

organic HAP in waste materials according to §63.4551(e)(4);

(ii) The calculation of the total mass of coating solids used each month using Equation 2 of §63.4551;

(iii) The calculation of the mass of organic HAP emission reduction by emission capture systems and add-on control devices using Equations 1 and 1A through 1D of §63.4561 and Equations 2, 3, and 3A through 3C of §63.4561, as applicable;

(iv) The calculation of each month's organic HAP emission rate using Equation 4 of §63.4561; and

(v) The calculation of each 12-month organic HAP emission rate using Equation 5 of §63.4561.

(d) A record of the name and mass of each coating, thinner and/or other additive, and cleaning material used during each compliance period. If you are using the compliant material option for all coatings at the source, you may maintain purchase records for each material used rather than a record of the mass used.

(e) A record of the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during each compliance period.

(f) A record of the mass fraction of coating solids

for each coating used during each compliance period.

(g) If you use an allowance in Equation 1 of §63.4551 for organic HAP contained in waste materials sent to or designated for shipment to a treatment, storage, and disposal facility (TSDF) according to §63.4551(e)(4), you must keep records of the information specified in paragraphs (h)(1) through (3) of this section.

(1) The name and address of each TSDF to which you sent waste materials for which you use an allowance in Equation 1 of §63.4551, a statement of which subparts under 40 CFR parts 262, 264, 265, and 266 apply to the facility; and the date of each shipment.

(2) Identification of the coating operations producing waste materials included in each shipment and the month or months in which you used the allowance for these materials in Equation 1 of §63.4551.

(3) The methodology used in accordance with §63.4551(e)(4) to determine the total amount of waste materials sent to or the amount collected, stored, and designated for transport to a TSDF each month; and the methodology to determine the mass of organic HAP contained in these waste materials. This must include

the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment.

(h) You must keep records of the date, time, and duration of each deviation.

(i) If you use the emission rate with add-on controls option, you must keep the records specified in paragraphs (k)(1) through (8) of this section.

(1) For each deviation, a record of whether the deviation occurred during a period of startup, shutdown, or malfunction.

(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) The records required to show continuous compliance with each operating limit specified in Table 1 to this subpart that applies to you.

(4) For each capture system that is a PTE, the data and documentation you used to support a determination that the capture system meets the criteria in Method 204 of appendix M to 40 CFR part 51 for a PTE and has a capture efficiency of 100 percent, as specified in

§63.4565(a).

(5) For each capture system that is not a PTE, the data and documentation you used to determine capture efficiency according to the requirements specified in §§63.4564 and 63.4565(b) through (e), including the records specified in paragraphs (k)(5)(i) through (iii) of this section that apply to you.

(i) Records for a liquid-to-uncaptured gas protocol using a temporary total enclosure or building enclosure.

Records of the mass of total volatile hydrocarbon (TVH) as measured by Method 204A or 204F of appendix M to 40 CFR part 51 for each material used in the coating operation, and the total TVH for all materials used during each capture efficiency test run, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run, as measured by Method 204D or 204E of appendix M to 40 CFR part 51, including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 of appendix M to 40 CFR part 51 for either a temporary total enclosure or a building

enclosure.

(ii) Records for a gas-to-gas protocol using a temporary total enclosure or a building enclosure.

Records of the mass of TVH emissions captured by the emission capture system as measured by Method 204B or 204C of appendix M to 40 CFR part 51 at the inlet to the add-on control device, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run as measured by Method 204D or 204E of appendix M to 40 CFR part 51, including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 of appendix M to 40 CFR part 51 for either a temporary total enclosure or a building enclosure.

(iii) Records for an alternative protocol. Records needed to document a capture efficiency determination using an alternative method or protocol as specified in §63.4565(e), if applicable.

(6) The records specified in paragraphs (k)(6)(i) and (ii) of this section for each add-on control device organic HAP destruction or removal efficiency

determination as specified in §63.4566.

(i) Records of each add-on control device performance test conducted according to §§63.4564 and 63.4566.

(ii) Records of the coating operation conditions during the add-on control device performance test showing that the performance test was conducted under representative operating conditions.

(7) Records of the data and calculations you used to establish the emission capture and add-on control device operating limits as specified in §63.4567 and to document compliance with the operating limits as specified in Table 1 to this subpart.

(8) A record of the work practice plan required by §63.4493 and documentation that you are implementing the plan on a continuous basis.

§63.4531 In what form and for how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). Where appropriate, the records may be maintained as electronic spreadsheets or as a database.

(b) As specified in §63.10(b)(1), you must keep

each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on-site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to §63.10(b)(1). You may keep the records off-site for the remaining 3 years.

Compliance Requirements for the Compliant Material Option

§63.4540 By what date must I conduct the initial compliance demonstration?

You must complete the initial compliance demonstration for the initial compliance period according to the requirements in §63.4541. The initial compliance period begins on the applicable compliance date specified in §63.4483 and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through that month plus the next 12 months. The initial compliance demonstration includes the calculations according to §63.4541 and supporting documentation showing that during the initial compliance period, you used no coating with

an organic HAP content that exceeded the applicable emission limit in §63.4490, and that you used no thinners and/or other additives, or cleaning materials that contained organic HAP as determined according to §63.4541(a).

§63.4541 How do I demonstrate initial compliance with the emission limitations?

You may use the compliant material option for any individual coating operation, for any group of coating operations in the affected source, or for all the coating operations in the affected source. You must use either the emission rate without add-on controls option or the emission rate with add-on controls option for any coating operation in the affected source for which you do not use this option. To demonstrate initial compliance using the compliant material option, the coating operation or group of coating operations must use no coating with an organic HAP content that exceeds the applicable emission limits in §63.4490 and must use no thinner and/or other additive, or cleaning material that contains organic HAP as determined according to this section. Any coating operation for which you use the compliant material option is not required to meet the operating limits or work

practice standards required in §§63.4492 and 63.4493, respectively. You must conduct a separate initial compliance demonstration for each general use coating, TPO coating, automotive lamp coating, and assembled on-road vehicle coating affected source unless you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.4490(c). If you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.4490(c), you must demonstrate that all coating operations included in the predominant activity determination or calculation of the facility-specific emission limit comply with that limit. You must meet all the requirements of this section. Use the procedures in this section on each coating, thinner and/or other additive, and cleaning material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration. You do not need to redetermine the organic HAP content of coatings, thinners and/or other additives, and cleaning materials that are reclaimed on-site (or reclaimed off-site if you have documentation showing that you received back the exact same materials that were sent off-site) and reused in the

coating operation for which you use the compliant material option, provided these materials in their condition as received were demonstrated to comply with the compliant material option.

(a) Determine the mass fraction of organic HAP for each material used. You must determine the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during the compliance period by using one of the options in paragraphs (a)(1) through (5) of this section.

(1) Method 311 (appendix A to 40 CFR part 63). You may use Method 311 for determining the mass fraction of organic HAP. Use the procedures specified in paragraphs (a)(1)(i) and (ii) of this section when performing a Method 311 test.

(i) Count each organic HAP that is measured to be present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is measured to be 0.5 percent of the material by mass, you do not have to count it. Express the mass fraction of each

organic HAP you count as a value truncated to four places after the decimal point (e.g., 0.3791).

(ii) Calculate the total mass fraction of organic HAP in the test material by adding up the individual organic HAP mass fractions and truncating the result to three places after the decimal point (e.g., 0.763).

(2) Method 24 (appendix A to 40 CFR part 60). For coatings, you may use Method 24 to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may use the alternative method contained in appendix A to this subpart, rather than Method 24. You may use the volatile fraction that is emitted, as measured by the alternative method in appendix A to this subpart, as a substitute for the mass fraction of organic HAP.

(3) Alternative method. You may use an alternative test method for determining the mass fraction of organic HAP once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval.

(4) Information from the supplier or manufacturer

of the material. You may rely on information other than that generated by the test methods specified in paragraphs (a)(1) through (3) of this section, such as manufacturer's formulation data, if it represents each organic HAP that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is 0.5 percent of the material by mass, you do not have to count it. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may rely on manufacturer's data that expressly states the organic HAP or volatile matter mass fraction emitted. If there is a disagreement between such information and results of a test conducted according to paragraphs (a)(1) through (3) of this section, then the test method results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(5) Solvent blends. Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may

contain organic HAP which must be counted toward the total organic HAP mass fraction of the materials. When test data and manufacturer's data for solvent blends are not available, you may use the default values for the mass fraction of organic HAP in these solvent blends listed in Table 3 or 4 to this subpart. If you use the tables, you must use the values in Table 3 for all solvent blends that match Table 3 entries according to the instructions for Table 3, and you may use Table 4 only if the solvent blends in the materials you use do not match any of the solvent blends in Table 3 and you know only whether the blend is aliphatic or aromatic. However, if the results of a Method 311 (appendix A to 40 CFR part 63) test indicate higher values than those listed on Table 3 or 4 to this subpart, the Method 311 results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(b) Determine the mass fraction of coating solids for each coating. You must determine the mass fraction of coating solids (kg (lb) of coating solids per kg (lb) of coating) for each coating used during the compliance period by a test, by information provided by the supplier

or the manufacturer of the material, or by calculation, as specified in paragraphs (b)(1) through (3) of this section.

(1) Method 24 (appendix A to 40 CFR part 60). Use Method 24 for determining the mass fraction of coating solids. For reactive adhesives in which some of the liquid fraction reacts to form solids, you may use the alternative method contained in appendix A to this subpart, rather than Method 24, to determine the mass fraction of coating solids.

(2) Alternative method. You may use an alternative test method for determining the solids content of each coating once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval.

(3) Information from the supplier or manufacturer of the material. You may obtain the mass fraction of coating solids for each coating from the supplier or manufacturer. If there is disagreement between such information and the test method results, then the test method results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(c) Calculate the organic HAP content of each coating. Calculate the organic HAP content, kg (lb) organic HAP emitted per kg (lb) coating solids used, of each coating used during the compliance period using Equation 1 of this section:

$$H_c = \frac{W_c}{S_c} \quad (\text{Eq. 1})$$

Where:

H_c	=	Organic HAP content of the coating, kg (lb) of organic HAP emitted per kg (lb) coating solids used.
W_c	=	Mass fraction of organic HAP in the coating, kg organic HAP per kg coating, determined according to paragraph (a) of this section.
S_c	=	Mass fraction of coating solids, kg coating solids per kg coating, determined according to paragraph (b) of this section.

(d) Compliance demonstration. The calculated organic HAP content for each coating used during the initial compliance period must be less than or equal to the applicable emission limit in §63.4490; and each thinner and/or other additive, and cleaning material used during the initial compliance period must contain no

organic HAP, determined according to paragraph (a) of this section. You must keep all records required by §§63.4530 and 63.4531. As part of the notification of compliance status required in §63.4510, you must identify the coating operation(s) for which you used the compliant material option and submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the initial compliance period because you used no coatings for which the organic HAP content exceeded the applicable emission limit in §63.4490, and you used no thinners and/or other additives, or cleaning materials that contained organic HAP, determined according to the procedures in paragraph (a) of this section.

§63.4542 How do I demonstrate continuous compliance with the emission limitations?

(a) For each compliance period to demonstrate continuous compliance, you must use no coating for which the organic HAP content (determined using Equation 1 of §63.4541) exceeds the applicable emission limit in §63.4490, and use no thinner and/or other additive, or cleaning material that contains organic HAP, determined according to §63.4541(a). A compliance period consists

of 12 months. Each month, after the end of the initial compliance period described in §63.4540, is the end of a compliance period consisting of that month and the preceding 11 months. If you are complying with a facility-specific emission limit under §63.4490(c), you must also perform the calculation using Equation 1 in §63.4490(c)(2) on a monthly basis using the data from the previous 12 months of operation.

(b) If you choose to comply with the emission limitations by using the compliant material option, the use of any coating, thinner and/or other additive, or cleaning material that does not meet the criteria specified in paragraph (a) of this section is a deviation from the emission limitations that must be reported as specified in §§63.4510(c)(6) and 63.4520(a)(5).

(c) As part of each semiannual compliance report required by §63.4520, you must identify the coating operation(s) for which you used the compliant material option. If there were no deviations from the applicable emission limit in §63.4490, submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the reporting period because you used no coatings for which the organic HAP content

exceeded the applicable emission limit in §63.4490, and you used no thinner and/or other additive, or cleaning material that contained organic HAP, determined according to §63.4541(a).

(d) You must maintain records as specified in §§63.4530 and 63.4531.

Compliance Requirements for the Emission Rate

Without Add-On Controls Option

§63.4550 By what date must I conduct the initial compliance demonstration?

You must complete the initial compliance demonstration for the initial compliance period according to the requirements of §63.4551. The initial compliance period begins on the applicable compliance date specified in §63.4483 and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You must determine the mass of organic HAP emissions and mass of coating solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration

includes the calculations according to §63.4551 and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in §63.4490.

§63.4551 How do I demonstrate initial compliance with the emission limitations?

You may use the emission rate without add-on controls option for any individual coating operation, for any group of coating operations in the affected source, or for all the coating operations in the affected source. You must use either the compliant material option or the emission rate with add-on controls option for any coating operation in the affected source for which you do not use this option. To demonstrate initial compliance using the emission rate without add-on controls option, the coating operation or group of coating operations must meet the applicable emission limit in §63.4490, but is not required to meet the operating limits or work practice standards in §§63.4492 and 63.4493, respectively. You must conduct a separate initial compliance demonstration for each general use, TPO, automotive lamp, and assembled on-road vehicle coating operation unless you are

demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.4490(c). If you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.4490(c), you must demonstrate that all coating operations included in the predominant activity determination or calculation of the facility-specific emission limit comply with that limit. You must meet all the requirements of this section. When calculating the organic HAP emission rate according to this section, do not include any coatings, thinners and/or other additives, or cleaning materials used on coating operations for which you use the compliant material option or the emission rate with add-on controls option. You do not need to redetermine the mass of organic HAP in coatings, thinners and/or other additives, or cleaning materials that have been reclaimed on-site (or reclaimed off-site if you have documentation showing that you received back the exact same materials that were sent off-site) and reused in the coating operation for which you use the emission rate without add-on controls option. If you use coatings, thinners and/or other additives, or cleaning materials that have been reclaimed on-site, the

amount of each used in a month may be reduced by the amount of each that is reclaimed. That is, the amount used may be calculated as the amount consumed to account for materials that are reclaimed.

(a) Determine the mass fraction of organic HAP for each material. Determine the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during each month according to the requirements in §63.4541(a).

(b) Determine the mass fraction of coating solids. Determine the mass fraction of coating solids (kg (lb) of coating solids per kg (lb) of coating) for each coating used during each month according to the requirements in §63.4541(b).

(c) Determine the density of each material. Determine the density of each liquid coating, thinner and/or other additive, and cleaning material used during each month from test results using ASTM Method D1475-98, "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products" (incorporated by reference, see §63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure

materials. If there is disagreement between ASTM Method D1475-98 and other such information sources, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine material density. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, 1C, and 2 of this section.

(d) Determine the volume of each material used.

Determine the volume (liters) of each coating, thinner and/or other additive, and cleaning material used during each month by measurement or usage records. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine the volume of each material used. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, 1C, and 2 of this section.

(e) Calculate the mass of organic HAP emissions.

The mass of organic HAP emissions is the combined mass of organic HAP contained in all coatings, thinners and/or

other additives, and cleaning materials used during each month minus the organic HAP in certain waste materials.

Calculate the mass of organic HAP emissions using Equation 1 of this section.

$$H_e = A + B + C - R_w \quad (\text{Eq. 1})$$

Where:

H_e	=	Total mass of organic HAP emissions during the month, kg.
A	=	Total mass of organic HAP in the coatings used during the month, kg, as calculated in Equation 1A of this section.
B	=	Total mass of organic HAP in the thinners and/or other additives used during the month, kg, as calculated in Equation 1B of this section.
C	=	Total mass of organic HAP in the cleaning materials used during the month, kg, as calculated in Equation 1C of this section.
R_w	=	Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the month, kg, determined according to paragraph (e)(4) of this section. (You may assign a value of zero to R_w if you do not wish to use this allowance.)

(1) Calculate the kg organic HAP in the coatings used during the month using Equation 1A of this section:

$$A = \sum_{i=1}^m (Vol_{c,i}) (D_{c,i}) (W_{c,i}) \quad (\text{Eq. 1A})$$

Where:

A	=	Total mass of organic HAP in the coatings used during the month, kg.
Vol _{c,i}	=	Total volume of coating, i, used during the month, liters.
D _{c,i}	=	Density of coating, i, kg coating per liter coating.
W _{c,i}	=	Mass fraction of organic HAP in coating, i, kg organic HAP per kg coating. For reactive adhesives as defined in §63.4581, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to this subpart.
m	=	Number of different coatings used during the month.

(2) Calculate the kg of organic HAP in the thinners and/or other additives used during the month using Equation 1B of this section:

$$B = \sum_{j=1}^n (Vol_{t,j}) (D_{t,j}) (W_{t,j}) \quad (\text{Eq. 1B})$$

Where:

B	=	Total mass of organic HAP in the thinners and/or other additives used during the month, kg.
Vol _{t,j}	=	Total volume of thinner and/or other additive, j, used during the month, liters.
D _{t,j}	=	Density of thinner and/or other additive, j, kg per liter.
W _{t,j}	=	Mass fraction of organic HAP in

thinner and/or other additive, j,
 kg organic HAP per kg thinner
 and/or other additive. For
 reactive adhesives as defined in
 §63.4581, use the mass fraction
 of organic HAP that is emitted as
 determined using the method in
 appendix A to this subpart.

n = Number of different thinners and/or
 other additives used during the month.

(3) Calculate the kg organic HAP in the cleaning
 materials used during the month using Equation 1C of this
 section:

$$C = \sum_{k=1}^p (Vol_{s,k}) (D_{s,k}) (W_{s,k}) \quad (\text{Eq. 1C})$$

Where:

C = Total mass of organic HAP in the
 cleaning materials used during the
 month, kg.

Vol_{s,k} = Total volume of cleaning material, k,
 used during the month, liters.

D_{s,k} = Density of cleaning material, k,
 kg per liter.

W_{s,k} = Mass fraction of organic HAP in
 cleaning material, k, kg organic
 HAP per kg material.

p = Number of different cleaning materials
 used during the month.

(4) If you choose to account for the mass of
 organic HAP contained in waste materials sent or
 designated for shipment to a hazardous waste TSDF in
 Equation 1 of this section, then you must determine the

mass according to paragraphs (e)(4)(i) through (iv) of this section.

(i) You may only include waste materials in the determination that are generated by coating operations in the affected source for which you use Equation 1 of this section and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR part 262, 264, 265, or 266. The TSDF may be either off-site or on-site. You may not include organic HAP contained in wastewater.

(ii) You must determine either the amount of the waste materials sent to a TSDF during the month or the amount collected and stored during the month and designated for future transport to a TSDF. Do not include in your determination any waste materials sent to a TSDF during a month if you have already included them in the amount collected and stored during that month or a previous month.

(iii) Determine the total mass of organic HAP contained in the waste materials specified in paragraph (e)(4)(ii) of this section.

(iv) You must document the methodology you use to determine the amount of waste materials and the total

mass of organic HAP they contain, as required in §63.4530(h). If waste manifests include this information, they may be used as part of the documentation of the amount of waste materials and mass of organic HAP contained in them.

(f) Calculate the total mass of coating solids used. Determine the total mass of coating solids used, kg, which is the combined mass of coating solids for all the coatings used during each month, using Equation 2 of this section:

$$M_{st} = \sum_{i=1}^n (Vol_{c,i})(D_{c,i})(M_{s,i}) \quad (\text{Eq. 2})$$

Where:

M_{st}	=	Total mass of coating solids used during the month, kg.
$Vol_{c,i}$	=	Total volume of coating, i, used during the month, liters.
$D_{c,i}$	=	Density of coating, i, kgs per liter coating, determined according to §63.4551(c).
$M_{s,i}$	=	Mass fraction of coating solids for coating, i, kgs solids per kg coating, determined according to §63.4541(b).

m = Number of coatings used during the month.

(g) Calculate the organic HAP emission rate.

Calculate the organic HAP emission rate for the compliance period, kg (lb) organic HAP emitted per kg (lb) coating solids used, using Equation 3 of this section:

$$H_{yr} = \frac{\sum_{y=1}^n H_e}{\sum_{y=1}^n M_{st}} \quad (\text{Eq. 3})$$

Where:

H_{yr} = Average organic HAP emission rate for the compliance period, kg organic HAP emitted per kg coating solids used.

H_e = Total mass of organic HAP emissions from all materials used during month, y, kg, as calculated by Equation 1 of this section.

M_{st} = Total mass of coating solids used during month, y, kg, as calculated by Equation 2 of this section.

y = Identifier for months.

n = Number of full or partial months in the compliance period (for the initial compliance period, n equals 12 if the compliance date falls on the first day of a month; otherwise n equals 13; for all following compliance periods, n equals 12).

(h) Compliance demonstration. The organic HAP emission rate for the initial compliance period calculated using Equation 3 of this section must be less than or equal to the applicable emission limit for each subcategory in §63.4490 or the predominant activity or facility-specific emission limit allowed in §63.4490(c). You must keep all records as required by §§63.4530 and 63.4531. As part of the notification of compliance status required by §63.4510, you must identify the coating operation(s) for which you used the emission rate without add-on controls option and submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in §63.4490, determined according to the procedures in this section.

§63.4552 How do I demonstrate continuous compliance with the emission limitations?

(a) To demonstrate continuous compliance, the organic HAP emission rate for each compliance period, determined according to §63.4551(a) through (g), must be less than or equal to the applicable emission limit in

§63.4490. A compliance period consists of 12 months. Each month after the end of the initial compliance period described in §63.4550 is the end of a compliance period consisting of that month and the preceding 11 months. You must perform the calculations in §63.4551(a) through (g) on a monthly basis using data from the previous 12 months of operation. If you are complying with a facility-specific emission limit under §63.4490(c), you must also perform the calculation using Equation 1 in §63.4490(c)(2) on a monthly basis using the data from the previous 12 months of operation.

(b) If the organic HAP emission rate for any 12-month compliance period exceeded the applicable emission limit in §63.4490, this is a deviation from the emission limitation for that compliance period and must be reported as specified in §§63.4510(c)(6) and 63.4520(a)(6).

(c) As part of each semiannual compliance report required by §63.4520, you must identify the coating operation(s) for which you used the emission rate without add-on controls option. If there were no deviations from the emission limitations, you must submit a statement that the coating operation(s) was (were) in compliance

with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in §63.4490, determined according to §63.4551(a) through (g).

(d) You must maintain records as specified in §§63.4530 and 63.4531.

Compliance Requirements for the Emission Rate

With Add-On Controls Option

§63.4560 By what date must I conduct performance tests and other initial compliance demonstrations?

(a) New and reconstructed affected sources. For a new or reconstructed affected source, you must meet the requirements of paragraphs (a)(1) through (4) of this section.

(1) All emission capture systems, add-on control devices, and CPMS must be installed and operating no later than the applicable compliance date specified in §63.4483. Except for solvent recovery systems for which you conduct liquid-liquid material balances according to §63.4561(j), you must conduct a performance test of each capture system and add-on control device according to §§63.4564, 63.4565, and 63.4566 and establish the

operating limits required by §63.4492 no later than 180 days after the applicable compliance date specified in §63.4483. For a solvent recovery system for which you conduct liquid-liquid material balances according to §63.4561(j), you must initiate the first material balance no later than the applicable compliance date specified in §63.4483.

(2) You must develop and begin implementing the work practice plan required by §63.4493 no later than the compliance date specified in §63.4483.

(3) You must complete the initial compliance demonstration for the initial compliance period according to the requirements of §63.4561. The initial compliance period begins on the applicable compliance date specified in §63.4483 and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You must determine the mass of organic HAP emissions and mass of coatings solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration

includes the results of emission capture system and add-on control device performance tests conducted according to §§63.4564, 63.4565, and 63.4566; results of liquid-liquid material balances conducted according to §63.4561(j); calculations according to §63.4561 and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in §63.4490; the operating limits established during the performance tests and the results of the continuous parameter monitoring required by §63.4568; and documentation of whether you developed and implemented the work practice plan required by §63.4493.

(4) You do not need to comply with the operating limits for the emission capture system and add-on control device required by §63.4492 until after you have completed the performance tests specified in paragraph (a)(1) of this section. Instead, you must maintain a log detailing the operation and maintenance of the emission capture system, add-on control device, and continuous parameter monitors during the period between the compliance date and the performance test. You must begin complying with the operating limits for your affected

source on the date you complete the performance tests specified in paragraph (a)(1) of this section. The requirements in this paragraph (a)(4) do not apply to solvent recovery systems for which you conduct liquid-liquid material balances according to the requirements in §63.4561(j).

(b) Existing affected sources. For an existing affected source, you must meet the requirements of paragraphs (b)(1) through (3) of this section.

(1) All emission capture systems, add-on control devices, and CPMS must be installed and operating no later than the applicable compliance date specified in §63.4483. Except for solvent recovery systems for which you conduct liquid-liquid material balances according to §63.4561(j), you must conduct a performance test of each capture system and add-on control device according to the procedures in §§63.4564, 63.4565, and 63.4566 and establish the operating limits required by §63.4492 no later than the compliance date specified in §63.4483. For a solvent recovery system for which you conduct liquid-liquid material balances according to §63.4561(j), you must initiate the first material balance no later than the compliance date specified in §63.4483.

(2) You must develop and begin implementing the work practice plan required by §63.4493 no later than the compliance date specified in §63.4483.

(3) You must complete the initial compliance demonstration for the initial compliance period according to the requirements of §63.4561. The initial compliance period begins on the applicable compliance date specified in §63.4483 and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You must determine the mass of organic HAP emissions and mass of coatings solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration includes the results of emission capture system and add-on control device performance tests conducted according to §§63.4564, 63.4565, and 63.4566; results of liquid-liquid material balances conducted according to §63.4561(j); calculations according to §63.4561 and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal

to or less than the applicable emission limit in §63.4490; the operating limits established during the performance tests and the results of the continuous parameter monitoring required by §63.4568; and documentation of whether you developed and implemented the work practice plan required by §63.4493.

(c) You are not required to conduct an initial performance test to determine capture efficiency or destruction efficiency of a capture system or control device if you receive approval to use the results of a performance test that has been previously conducted on that capture system or control device. Any such previous tests must meet the conditions described in paragraphs (c)(1) through (3) of this section.

(1) The previous test must have been conducted using the methods and conditions specified in this subpart.

(2) Either no process or equipment changes must have been made since the previous test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(3) Either the required operating parameters were established in the previous test or sufficient data were collected in the previous test to establish the required operating parameters.

§63.4561 How do I demonstrate initial compliance?

(a) You may use the emission rate with add-on controls option for any coating operation, for any group of coating operations in the affected source, or for all of the coating operations in the affected source. You may include both controlled and uncontrolled coating operations in a group for which you use this option. You must use either the compliant material option or the emission rate without add-on controls option for any coating operation in the affected source for which you do not use the emission rate with add-on controls option. To demonstrate initial compliance, the coating operation(s) for which you use the emission rate with add-on controls option must meet the applicable emission limitations in §§63.4490, 63.4492, and 63.4493. You must conduct a separate initial compliance demonstration for each general use, TPO, automotive lamp, and assembled on-road vehicle coating operation, unless you are demonstrating compliance with a predominant activity or

facility-specific emission limit as provided in §63.4490(c). If you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.4490(c), you must demonstrate that all coating operations included in the predominant activity determination or calculation of the facility-specific emission limit comply with that limit. You must meet all the requirements of this section. When calculating the organic HAP emission rate according to this section, do not include any coatings, thinners and/or other additives, or cleaning materials used on coating operations for which you use the compliant material option or the emission rate without add-on controls option. You do not need to redetermine the mass of organic HAP in coatings, thinners and/or other additives, or cleaning materials that have been reclaimed onsite (or reclaimed off-site if you have documentation showing that you received back the exact same materials that were sent off-site) and reused in the coatings operation(s) for which you use the emission rate with add-on controls option. If you use coatings, thinners and/or other additives, or cleaning materials that have been reclaimed on-site, the amount of each used in a month may be

reduced by the amount of each that is reclaimed. That is, the amount used may be calculated as the amount consumed to account for materials that are reclaimed.

(b) Compliance with operating limits. Except as provided in §63.4560(a)(4), and except for solvent recovery systems for which you conduct liquid-liquid material balances according to the requirements of paragraph (j) of this section, you must establish and demonstrate continuous compliance during the initial compliance period with the operating limits required by §63.4492, using the procedures specified in §§63.4567 and 63.4568.

(c) Compliance with work practice requirements. You must develop, implement, and document your implementation of the work practice plan required by §63.4493 during the initial compliance period, as specified in §63.4530.

(d) Compliance with emission limits. You must follow the procedures in paragraphs (e) through (n) of this section to demonstrate compliance with the applicable emission limit in §63.4490 for each affected source in each subcategory. (e) Determine the mass fraction of organic HAP, density, volume used, and mass

fraction of coating solids. Follow the procedures specified in §63.4551(a) through (d) to determine the mass fraction of organic HAP, density, and volume of each coating, thinner and/or other additive, and cleaning material used during each month; and the mass fraction of coating solids for each coating used during each month.

(f) Calculate the total mass of organic HAP emissions before add-on controls. Using Equation 1 of §63.4551, calculate the total mass of organic HAP emissions before add-on controls from all coatings, thinners and/or other additives, and cleaning materials used during each month in the coating operation or group of coating operations for which you use the emission rate with add-on controls option.

(g) Calculate the organic HAP emission reduction for each controlled coating operation. Determine the mass of organic HAP emissions reduced for each controlled coating operation during each month. The emission reduction determination quantifies the total organic HAP emissions that pass through the emission capture system and are destroyed or removed by the add-on control device. Use the procedures in paragraph (h) of this section to calculate the mass of organic HAP emission

reduction for each controlled coating operation using an emission capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances. For each controlled coating operation using a solvent recovery system for which you conduct a liquid-liquid material balance, use the procedures in paragraph (j) of this section to calculate the organic HAP emission reduction.

(h) Calculate the organic HAP emission reduction for each controlled coating operation not using liquid-liquid material balance. Use Equation 1 of this section to calculate the organic HAP emission reduction for each controlled coating operation using an emission capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances. The calculation applies the emission capture system efficiency and add-on control device efficiency to the mass of organic HAP contained in the coatings, thinners and/or other additives, and cleaning materials that are used in the coating operation served by the emission capture system and add-on control device during each month. You must assume zero efficiency for the emission capture system and add-on control device for

any period of time a deviation specified in §63.4563(c) or (d) occurs in the controlled coating operation, including a deviation during a period of startup, shutdown, or malfunction, unless you have other data indicating the actual efficiency of the emission capture system and add-on control device and the use of these data is approved by the Administrator. Equation 1 of this section treats the materials used during such a deviation as if they were used on an uncontrolled coating operation for the time period of the deviation.

$$H_C = (A_C + B_C + C_C - R_W - H_{UNQ}) \left(\frac{CE}{100} \times \frac{DRE}{100} \right) \quad (\text{Eq. 1})$$

Where:

- | | | |
|-------|---|---|
| H_C | = | Mass of organic HAP emission reduction for the controlled coating operation during the month, kg. |
| A_C | = | Total mass of organic HAP in the coatings used in the controlled coating operation during the month, kg, as calculated in Equation 1A of this section. |
| B_C | = | Total mass of organic HAP in the thinners and/or other additives used in the controlled coating operation during the month, kg, as calculated in Equation 1B of this section. |
| C_C | = | Total mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg, as calculated in Equation 1C of this section. |

R_w	=	Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the compliance period, kg, determined according to §63.4951(e)(4). (You may assign a value of zero to R_w if you do not wish to use this allowance.)
H_{UNC}	=	Total mass of organic HAP in the coatings, thinners and/or other additives, and cleaning materials used during all deviations specified in §63.4563(c) and (d) that occurred during the month in the controlled coating operation, kg, as calculated in Equation 1D of this section.
CE	=	Capture efficiency of the emission capture system vented to the add-on control device, percent. Use the test methods and procedures specified in §§63.4564 and 63.4565 to measure and record capture efficiency.
DRE	=	Organic HAP destruction or removal efficiency of the add-on control device, percent. Use the test methods and procedures in §§63.4564 and 63.4566 to measure and record the organic HAP destruction or removal efficiency.

(1) Calculate the mass of organic HAP in the coatings used in the controlled coating operation, kg (1b), using Equation 1A of this section:

$$A_c = \sum_{i=1}^n (Vol_{c,i}) (D_{c,i}) (W_{c,i}) \quad (\text{Eq. 1A})$$

Where:

A_c = Total mass of organic HAP in the

coatings used in the controlled coating operation during the month, kg.

$Vol_{c,i}$ = Total volume of coating, i, used during the month, liters.

$D_{c,i}$ = Density of coating, i, kg per liter.

$W_{c,i}$ = Mass fraction of organic HAP in coating, i, kg per kg. For reactive adhesives as defined in §63.4581, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to this subpart.

m = Number of different coatings used.

(2) Calculate the mass of organic HAP in the thinners and/or other additives used in the controlled coating operation, kg (lb), using Equation 1B of this section:

$$B_c = \sum_{j=1}^n (Vol_{t,j}) (D_{t,j}) (W_{t,j}) \quad (\text{Eq. 1B})$$

Where:

B_c = Total mass of organic HAP in the thinners and/or other additives used in the controlled coating operation during the month, kg.

$Vol_{t,j}$ = Total volume of thinner and/or other additive, j, used during the month, liters.

$D_{t,j}$ = Density of thinner and/or other additive, j, kg per liter.

$W_{t,j}$ = Mass fraction of organic HAP in thinner and/or other additive, j, kg per kg. For reactive adhesives as defined in §63.4581, use the mass fraction of organic

HAP that is emitted as determined using the method in appendix A to this subpart.

n = Number of different thinners and/or other additives used.

(3) Calculate the mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg (lb), using Equation 1C of this section:

$$C_c = \sum_{k=1}^p (Vol_{s,k}) (D_{s,k}) (W_{s,k}) \quad (\text{Eq. 1C})$$

Where:

C_c = Total mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg.

$Vol_{s,k}$ = Total volume of cleaning material, k, used during the month, liters.

$D_{s,k}$ = Density of cleaning material, k, kg per liter.

$W_{s,k}$ = Mass fraction of organic HAP in cleaning material, k, kg per kg.

p = Number of different cleaning materials used.

(4) Calculate the mass of organic HAP in the coatings, thinners and/or other additives, and cleaning materials used in the controlled coating operation during deviations specified in §63.4563(c) and (d), using Equation 1D of this section:

$$H_{\text{UNC}} = \sum_{h=1}^u (Vol_h) (D_h) (W_h) \quad (\text{Eq. 1D})$$

Where:

H_{UNC} = Total mass of organic HAP in the coatings, thinners and/or other additives, and cleaning materials used during all deviations specified in §63.4563(c) and (d) that occurred during the month in the controlled coating operation, kg.

Vol_h = Total volume of coating, thinner and/or other additive, or cleaning material, h, used in the controlled coating operation during deviations, liters.

D_h = Density of coating, thinner and/or other additives, or cleaning material, h, kg per liter.

W_h = Mass fraction of organic HAP in coating, thinner and/or other additives, or cleaning material, h, kg organic HAP per kg coating. For reactive adhesives as defined in §63.4581, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to this subpart.

q = Number of different coatings, thinners and/or other additives, and cleaning materials used.

(i) [Reserved]

(j) Calculate the organic HAP emission reduction for each controlled coating operation using liquid-liquid material balances. For each controlled coating operation using a solvent recovery system for which you conduct liquid-liquid material balances, calculate the organic

HAP emission reduction by applying the volatile organic matter collection and recovery efficiency to the mass of organic HAP contained in the coatings, thinners and/or other additives, and cleaning materials that are used in the coating operation controlled by the solvent recovery system during each month. Perform a liquid-liquid material balance for each month as specified in paragraphs (j)(1) through (6) of this section. Calculate the mass of organic HAP emission reduction by the solvent recovery system as specified in paragraph (j)(7) of this section.

(1) For each solvent recovery system, install, calibrate, maintain, and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system each month. The device must be initially certified by the manufacturer to be accurate to within ± 2.0 percent of the mass of volatile organic matter recovered.

(2) For each solvent recovery system, determine the mass of volatile organic matter recovered for the month, based on measurement with the device required in paragraph (j)(1) of this section.

(3) Determine the mass fraction of volatile organic matter for each coating, thinner and/or other additive, and cleaning material used in the coating operation controlled by the solvent recovery system during the month, kg volatile organic matter per kg coating. You may determine the volatile organic matter mass fraction using Method 24 of 40 CFR part 60, appendix A, or an EPA approved alternative method, or you may use information provided by the manufacturer or supplier of the coating. In the event of any inconsistency between information provided by the manufacturer or supplier and the results of Method 24 of 40 CFR part 60, appendix A, or an approved alternative method, the test method results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(4) Determine the density of each coating, thinner and/or other additive, and cleaning material used in the coating operation controlled by the solvent recovery system during the month, kg per liter, according to §63.4551(c).

(5) Measure the volume of each coating, thinner and/or other additive, and cleaning material used in the

coating operation controlled by the solvent recovery system during the month, liters.

(6) Each month, calculate the solvent recovery system's volatile organic matter collection and recovery efficiency, using Equation 2 of this section:

$$R_v = 100 \frac{M_{VR}}{\sum_{i=1}^m Vol_i D_i WV_{c,i} + \sum_{j=1}^n Vol_j D_j WV_{t,j} + \sum_{k=1}^p Vol_k D_k WV_{s,k}} \quad (\text{Eq. 2})$$

Where:

R_v	=	Volatile organic matter collection and recovery efficiency of the solvent recovery system during the month, percent.
M_{VR}	=	Mass of volatile organic matter recovered by the solvent recovery system during the month, kg.
Vol_i	=	Volume of coating, i, used in the coating operation controlled by the solvent recovery system during the month, liters.
D_i	=	Density of coating, i, kg per liter.
$WV_{c,i}$	=	Mass fraction of volatile organic matter for coating, i, kg volatile organic matter per kg coating. For reactive adhesives as defined in §63.4581, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to this subpart.
Vol_j	=	Volume of thinner and/or other additive, j, used in the coating operation controlled by the solvent recovery system during the month, liters.
D_j	=	Density of thinner and/or other additive, j, kg per liter.

$WV_{t,j}$	=	Mass fraction of volatile organic matter for thinner and/or other additive, j, kg volatile organic matter per kg thinner and/or other additive. For reactive adhesives as defined in §63.4581, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to this subpart.
Vol_k	=	Volume of cleaning material, k, used in the coating operation controlled by the solvent recovery system during the month, liters.
D_k	=	Density of cleaning material, k, kg per liter.
$WV_{s,k}$	=	Mass fraction of volatile organic matter for cleaning material, k, kg volatile organic matter per kg cleaning material.
m	=	Number of different coatings used in the coating operation controlled by the solvent recovery system during the month.
n	=	Number of different thinners and/or other additives used in the coating operation controlled by the solvent recovery system during the month.
p	=	Number of different cleaning materials used in the coating operation controlled by the solvent recovery system during the month.

(7) Calculate the mass of organic HAP emission reduction for the coating operation controlled by the solvent recovery system during the month, using Equation 3 of this section and according to paragraphs (j)(7)(i) through (iii) of this section:

$$H_{CSR} = (A_{CSR} + B_{CSR} + C_{CSR}) \left(\frac{R_v}{100} \right) \quad (\text{Eq. 3})$$

Where:

H_{CSR}	=	Mass of organic HAP emission reduction for the coating operation controlled by the solvent recovery system using a liquid-liquid material balance during the month, kg.
A_{CSR}	=	Total mass of organic HAP in the coatings used in the coating operation controlled by the solvent recovery system, kg, calculated using Equation 3A of this section.
B_{CSR}	=	Total mass of organic HAP in the thinners and/or other additives used in the coating operation controlled by the solvent recovery system, kg, calculated using Equation 3B of this section.
C_{CSR}	=	Total mass of organic HAP in the cleaning materials used in the coating operation controlled by the solvent recovery system, kg, calculated using Equation 3C of this section.
R_V	=	Volatile organic matter collection and recovery efficiency of the solvent recovery system, percent, from Equation 2 of this section.

(i) Calculate the mass of organic HAP in the coatings used in the coating operation controlled by the solvent recovery system, kg, using Equation 3A of this section.

$$A_{CSR} = \sum_{i=1}^n (Vol_{c,i}) (D_{c,i}) (W_{c,i}) \quad (\text{Eq. 3A})$$

Where:

A_{CSR}	=	Total mass of organic HAP in the coatings used in the coating operation controlled by the solvent recovery system during the month, kg.
$Vol_{C,i}$	=	Total volume of coating, i, used during the month in the coating operation controlled by the solvent recovery system, liters.
$D_{C,i}$	=	Density of coating, i, kg per liter.
$W_{C,i}$	=	Mass fraction of organic HAP in coating, i, kg organic HAP per kg coating. For reactive adhesives as defined in §63.4581, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to this subpart.
m	=	Number of different coatings used.

(ii) Calculate the mass of organic HAP in the thinners and/or other additives used in the coating operation controlled by the solvent recovery system, kg, using Equation 3B of this section:

$$B_{CSR} = \sum_{i=1}^n (Vol_{t,i})(D_{t,i})(W_{t,i}) \quad (\text{Eq. 3B})$$

Where:

B_{CSR}	=	Total mass of organic HAP in the thinners and/or other additives used in the coating operation controlled by the solvent recovery system during the month,
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		kg.
$Vol_{t,j}$	=	Total volume of thinner and/or other additive, j, used during the month in the coating operation controlled by the solvent recovery system, liters.
$D_{t,j}$	=	Density of thinner and/or other additive, j, kg per liter.
$W_{t,j}$	=	Mass fraction of organic HAP in thinner and/or other additive, j, kg organic HAP per kg thinner and/or other additive. For reactive adhesives as defined in §63.4581, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to this subpart.
n	=	Number of different thinners and/or other additives used.

(iii) Calculate the mass of organic HAP in the cleaning materials used in the coating operation controlled by the solvent recovery system during the month, kg, using Equation 3C of this section:

$$C_{CSR} = \sum_{k=1}^P (Vol_{s,k})(D_{s,k})(W_{s,k}) \quad (\text{Eq. 3C})$$

Where:

C_{CSR}	=	Total mass of organic HAP in the cleaning materials used in the coating operation controlled by the solvent recovery system during the month, kg.
$Vol_{s,k}$	=	Total volume of cleaning material, k, used during the month in the coating operation controlled by the solvent recovery system, liters.
$D_{s,k}$	=	Density of cleaning material, k, kg per liter.

$W_{S,k}$ = Mass fraction of organic HAP in cleaning material, k, kg organic HAP per kg cleaning material.
 p = Number of different cleaning materials used.

(k) Calculate the total mass of coating solids used. Determine the total mass of coating solids used, kg, which is the combined mass of coating solids for all the coatings used during each month in the coating operation or group of coating operations for which you use the emission rate with add-on controls option, using Equation 2 of §63.4551.

(l) Calculate the mass of organic HAP emissions for each month. Determine the mass of organic HAP emissions, kg, during each month, using Equation 4 of this section:

$$H_{HAP} = H_e - \sum_{i=1}^n (H_{C,i}) - \sum_{j=1}^x (H_{CSB,j}) \quad (\text{Eq. 4})$$

where:

H_{HAP} = Total mass of organic HAP emissions for the month, kg.
 H_e = Total mass of organic HAP emissions before add-on controls from all the coatings, thinners and/or other additives, and cleaning materials used during the month, kg, determined according to paragraph (f) of this section.
 $H_{C,i}$ = Total mass of organic HAP emission reduction for controlled coating operation, i, not using a

$$H_{\text{annual}} = \frac{\sum_{y=1}^n H_{\text{HAP},y}}{\sum_{y=1}^n M_{\text{st},y}}$$

liquid-liquid
material balance,
during the month,
kg, from Equation
1 of this section.
 $H_{\text{CSR},j}$ =
Total

mass of organic HAP emission reduction for coating operation, j, controlled by a solvent recovery system using a liquid-liquid material balance, during the month, kg, from Equation 3 of this section.

q = Number of controlled coating operations not controlled by a solvent recovery system using a liquid-liquid material balance.

r = Number of coating operations controlled by a solvent recovery system using a liquid-liquid material balance.

(m) Calculate the organic HAP emission rate for the compliance period. Determine the organic HAP emission rate for the compliance period, kg (lb) of organic HAP emitted per kg (lb) coating solids used, using Equation 5 of this section:

(Eq. 5)

Where:

H_{annual} = Organic HAP emission rate for the compliance period, kg organic HAP

		emitted per kg coating solids used.
$H_{HAP,y}$	=	Organic HAP emissions for month, y, kg, determined according to Equation 4 of this section.
$M_{st,y}$	=	Total mass of coating solids used during month, y, kg, from Equation 2 of §63.4551.
y	=	Identifier for months.
n	=	Number of full or partial months in the compliance period (for the initial compliance period, n equals 12 if the compliance date falls on the first day of a month; otherwise n equals 13; for all following compliance periods, n equals 12).

(n) Compliance demonstration. The organic HAP emission rate for the initial compliance period, calculated using Equation 5 of this section, must be less than or equal to the applicable emission limit for each subcategory in §63.4490 or the predominant activity or facility-specific emission limit allowed in §63.4490(c). You must keep all records as required by §§63.4530 and 63.4531. As part of the notification of compliance status required by §63.4510, you must identify the coating operation(s) for which you used the emission rate with add-on controls option and submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in

§63.4490, and you achieved the operating limits required by §63.4492 and the work practice standards required by §63.4493.

§63.4562 [Reserved.]

§63.4563 How do I demonstrate continuous compliance with the emission limitations?

(a) To demonstrate continuous compliance with the applicable emission limit in §63.4490, the organic HAP emission rate for each compliance period, determined according to the procedures in §63.4561, must be equal to or less than the applicable emission limit in §63.4490. A compliance period consists of 12 months. Each month after the end of the initial compliance period described in §63.4560 is the end of a compliance period consisting of that month and the preceding 11 months. You must perform the calculations in §63.4561 on a monthly basis using data from the previous 12 months of operation. If you are complying with a facility-specific emission limit under §63.4490(c), you must also perform the calculation using Equation 1 in §63.4490(c)(2) on a monthly basis using the data from the previous 12 months of operation.

(b) If the organic HAP emission rate for any 12-month compliance period exceeded the applicable emission

limit in §63.4490, this is a deviation from the emission limitation for that compliance period that must be reported as specified in §§63.4510(c)(6) and 63.4520(a)(7).

(c) You must demonstrate continuous compliance with each operating limit required by §63.4492 that applies to you, as specified in Table 1 to this subpart, when the coating line is in operation.

(1) If an operating parameter is out of the allowed range specified in Table 1 to this subpart, this is a deviation from the operating limit that must be reported as specified in §§63.4510(c)(6) and 63.4520(a)(7).

(2) If an operating parameter deviates from the operating limit specified in Table 1 to this subpart, then you must assume that the emission capture system and add-on control device were achieving zero efficiency during the time period of the deviation, unless you have other data indicating the actual efficiency of the emission capture system and add-on control device and the use of these data is approved by the Administrator.

(d) You must meet the requirements for bypass lines in §63.4568(b) for controlled coating operations for which you do not conduct liquid-liquid material balances.

If any bypass line is opened and emissions are diverted to the atmosphere when the coating operation is running, this is a deviation that must be reported as specified in §§63.4510(c)(6) and 63.4520(a)(7). For the purposes of completing the compliance calculations specified in §§63.4561(h), you must treat the materials used during a deviation on a controlled coating operation as if they were used on an uncontrolled coating operation for the time period of the deviation as indicated in Equation 1 of §63.4561.

(e) You must demonstrate continuous compliance with the work practice standards in §63.4493. If you did not develop a work practice plan, or you did not implement the plan, or you did not keep the records required by §63.4530(k)(8), this is a deviation from the work practice standards that must be reported as specified in §§63.4510(c)(6) and 63.4520(a)(7).

(f) As part of each semiannual compliance report required in §63.4520, you must identify the coating operation(s) for which you used the emission rate with add-on controls option. If there were no deviations from the emission limitations, submit a statement that you were in compliance with the emission limitations during

the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in §63.4490, and you achieved the operating limits required by §63.4492 and the work practice standards required by §63.4493 during each compliance period.

(g) During periods of startup, shutdown, or malfunction of the emission capture system, add-on control device, or coating operation that may affect emission capture or control device efficiency, you must operate in accordance with the startup, shutdown, and malfunction plan required by §63.4500(c).

(h) [Reserved]

(i) [Reserved]

(j) You must maintain records as specified in §§63.4530 and 63.4531.

§63.4564 What are the general requirements for performance tests?

(a) You must conduct each performance test required by §63.4560 according to the requirements in §63.7(e)(1) and under the conditions in this section, unless you obtain a waiver of the performance test according to the provisions in §63.7(h).

(1) Representative coating operation operating conditions. You must conduct the performance test under representative operating conditions for the coating operation. Operations during periods of startup, shutdown, or malfunction and during periods of nonoperation do not constitute representative conditions. You must record the process information that is necessary to document operating conditions during the test and explain why the conditions represent normal operation.

(2) Representative emission capture system and add-on control device operating conditions. You must conduct the performance test when the emission capture system and add-on control device are operating at a representative flow rate, and the add-on control device is operating at a representative inlet concentration. You must record information that is necessary to document emission capture system and add-on control device operating conditions during the test and explain why the conditions represent normal operation.

(b) You must conduct each performance test of an emission capture system according to the requirements in §63.4565. You must conduct each performance test of an add-on control device according to the requirements in

§63.4566.

§63.4565 How do I determine the emission capture system efficiency?

You must use the procedures and test methods in this section to determine capture efficiency as part of the performance test required by §63.4560.

(a) Assuming 100 percent capture efficiency. You may assume the capture system efficiency is 100 percent if both of the conditions in paragraphs (a)(1) and (2) of this section are met:

(1) The capture system meets the criteria in Method 204 of appendix M to 40 CFR part 51 for a PTE and directs all the exhaust gases from the enclosure to an add-on control device.

(2) All coatings, thinners and/or other additives, and cleaning materials used in the coating operation are applied within the capture system; coating solvent flash-off, curing, and drying occurs within the capture system; and the removal or evaporation of cleaning materials from the surfaces they are applied to occurs within the capture system. For example, this criterion is not met if parts enter the open shop environment when being moved between a spray booth and a curing oven.

(b) Measuring capture efficiency. If the capture system does not meet both of the criteria in paragraphs (a)(1) and (2) of this section, then you must use one of the three protocols described in paragraphs (c), (d), and (e) of this section to measure capture efficiency. The capture efficiency measurements use TVH capture efficiency as a surrogate for organic HAP capture efficiency. For the protocols in paragraphs (c) and (d) of this section, the capture efficiency measurement must consist of three test runs. Each test run must be at least 3 hours duration or the length of a production run, whichever is longer, up to 8 hours. For the purposes of this test, a production run means the time required for a single part to go from the beginning to the end of the production, which includes surface preparation activities and drying and curing time.

(c) Liquid-to-uncaptured-gas protocol using a temporary total enclosure or building enclosure. The liquid-to-uncaptured-gas protocol compares the mass of liquid TVH in materials used in the coating operation to the mass of TVH emissions not captured by the emission capture system. Use a temporary total enclosure or a building enclosure and the procedures in paragraphs

(c)(1) through (6) of this section to measure emission capture system efficiency using the liquid-to-uncaptured-gas protocol.

(1) Either use a building enclosure or construct an enclosure around the coating operation where coatings, thinners and/or other additives, and cleaning materials are applied, and all areas where emissions from these applied coatings and materials subsequently occur, such as flash-off, curing, and drying areas. The areas of the coating operation where capture devices collect emissions for routing to an add-on control device, such as the entrance and exit areas of an oven or spray booth, must also be inside the enclosure. The enclosure must meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 of appendix M to 40 CFR part 51.

(2) Use Method 204A or 204F of appendix M to 40 CFR part 51 to determine the mass fraction of TVH liquid input from each coating, thinner and/or other additive, and cleaning material used in the coating operation during each capture efficiency test run. To make the determination, substitute TVH for each occurrence of the term volatile organic compounds (VOC) in the methods.

(3) Use Equation 1 of this section to calculate the total mass of TVH liquid input from all the coatings, thinners and/or other additives, and cleaning materials used in the coating operation during each capture efficiency test run:

$$TVH_{used} = \sum_{i=1}^n (TVH_i) (Vol_i) (D_i) \quad (Eq. 1)$$

Where:

TVH _{used}	=	Mass of liquid TVH in materials used in the coating operation during the capture efficiency test run, kg.
TVH _i	=	Mass fraction of TVH in coating, thinner and/or other additive, or cleaning material, i, that is used in the coating operation during the capture efficiency test run, kg TVH per kg material.
Vol _i	=	Total volume of coating, thinner and/or other additive, or cleaning material, i, used in the coating operation during the capture efficiency test run, liters.
D _i	=	Density of coating, thinner and/or other additive, or cleaning material, i, kg material per liter material.
n	=	Number of different coatings, thinners and/or other additives, and cleaning materials used in the coating operation during the capture efficiency test run.

(4) Use Method 204D or 204E of appendix M to 40 CFR part 51 to measure the total mass, kg, of TVH emissions

that are not captured by the emission capture system. They are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

(i) Use Method 204D of appendix M to 40 CFR part 51 if the enclosure is a temporary total enclosure.

(ii) Use Method 204E of appendix M to 40 CFR 51 if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound emitting operations inside the building enclosure, other than the coating operation for which capture efficiency is being determined, must be shut down, but all fans and blowers must be operating normally.

(5) For each capture efficiency test run, determine the percent capture efficiency of the emission capture system using Equation 2 of this section:

$$CE = \frac{(TVH_{\text{used}} - TVH_{\text{uncaptured}})}{TVH_{\text{used}}} \times 100 \quad (\text{Eq. 2})$$

Where:

CE = Capture efficiency of the emission capture system vented to the add-on

control device, percent.

TVH_{used} = Total mass of TVH liquid input used in the coating operation during the capture efficiency test run, kg.

$TVH_{uncaptured}$ = Total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg.

(6) Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the three test runs.

(d) Gas-to-gas protocol using a temporary total enclosure or a building enclosure. The gas-to-gas protocol compares the mass of TVH emissions captured by the emission capture system to the mass of TVH emissions not captured. Use a temporary total enclosure or a building enclosure and the procedures in paragraphs (d)(1) through (5) of this section to measure emission capture system efficiency using the gas-to-gas protocol.

(1) Either use a building enclosure or construct an enclosure around the coating operation where coatings, thinners and/or other additives, and cleaning materials are applied, and all areas where emissions from these applied coatings and materials subsequently occur, such as flash-off, curing, and drying areas. The areas of the coating operation where capture devices collect emissions

generated by the coating operation for routing to an add-on control device, such as the entrance and exit areas of an oven or a spray booth, must also be inside the enclosure. The enclosure must meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 of appendix M to 40 CFR part 51.

(2) Use Method 204B or 204C of appendix M to 40 CFR part 51 to measure the total mass, kg, of TVH emissions captured by the emission capture system during each capture efficiency test run as measured at the inlet to the add-on control device. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

(i) The sampling points for the Method 204B or 204C measurement must be upstream from the add-on control device and must represent total emissions routed from the capture system and entering the add-on control device.

(ii) If multiple emission streams from the capture system enter the add-on control device without a single common duct, then the emissions entering the add-on control device must be simultaneously measured in each duct and the total emissions entering the add-on control device must be determined.

(3) Use Method 204D or 204E of appendix M to 40 CFR part 51 to measure the total mass, kg, of TVH emissions that are not captured by the emission capture system; they are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

(i) Use Method 204D of appendix M to 40 CFR part 51 if the enclosure is a temporary total enclosure.

(ii) Use Method 204E of appendix M to 40 CFR part 51 if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound emitting operations inside the building enclosure, other than the coating operation for which capture efficiency is being determined, must be shut down, but all fans and blowers must be operating normally.

(4) For each capture efficiency test run, determine the percent capture efficiency of the emission capture system using Equation 3 of this section:

$$CE = \frac{TVH_{\text{captured}}}{(TVH_{\text{captured}} + TVH_{\text{uncaptured}})} \times 100 \quad (\text{Eq. 3})$$

Where:

CE	=	Capture efficiency of the emission capture system vented to the add-on control device, percent.
TVH _{captured}	=	Total mass of TVH captured by the emission capture system as measured at the inlet to the add-on control device during the emission capture efficiency test run, kg.
TVH _{uncaptured}	=	Total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg.

(5) Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the three test runs.

(e) Alternative capture efficiency protocol. As an alternative to the procedures specified in paragraphs (c) and (d) of this section and subject to the approval of the Administrator, you may determine capture efficiency using any other capture efficiency protocol and test methods that satisfy the criteria of either the DQO or LCL approach as described in appendix A to subpart KK of this part.

§63.4566 How do I determine the add-on control device emission destruction or removal efficiency?

You must use the procedures and test methods in this section to determine the add-on control device emission destruction or removal efficiency as part of the

performance test required by §63.4560. You must conduct three test runs as specified in §63.7(e)(3) and each test run must last at least 1 hour.

(a) For all types of add-on control devices, use the test methods specified in paragraphs (a)(1) through (5) of this section.

(1) Use Method 1 or 1A of appendix A to 40 CFR part 60, as appropriate, to select sampling sites and velocity traverse points.

(2) Use Method 2, 2A, 2C, 2D, 2F, or 2G of appendix A to 40 CFR part 60, as appropriate, to measure gas volumetric flow rate.

(3) Use Method 3, 3A, or 3B of appendix A to 40 CFR part 60, as appropriate, for gas analysis to determine dry molecular weight.

(4) Use Method 4 of appendix A to 40 CFR part 60, to determine stack gas moisture.

(5) Methods for determining gas volumetric flow rate, dry molecular weight, and stack gas moisture must be performed, as applicable, during each test run.

(b) Measure total gaseous organic mass emissions as carbon at the inlet and outlet of the add-on control device simultaneously, using either Method 25 or 25A of

appendix A to 40 CFR part 60.

(1) Use Method 25 if the add-on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be more than 50 parts per million (ppm) at the control device outlet.

(2) Use Method 25A if the add-on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be 50 ppm or less at the control device outlet.

(3) Use Method 25A if the add-on control device is not an oxidizer.

(c) If two or more add-on control devices are used for the same emission stream, then you must measure emissions at the outlet to the atmosphere of each device. For example, if one add-on control device is a concentrator with an outlet to the atmosphere for the high-volume dilute stream that has been treated by the concentrator, and a second add-on control device is an oxidizer with an outlet to the atmosphere for the low-volume concentrated stream that is treated with the oxidizer, you must measure emissions at the outlet of the oxidizer and the high volume dilute stream outlet of the concentrator.

(d) For each test run, determine the total gaseous organic emissions mass flow rates for the inlet and the outlet of the add-on control device, using Equation 1 of this section. If there is more than one inlet or outlet to the add-on control device, you must calculate the total gaseous organic mass flow rate using Equation 1 of this section for each inlet and each outlet and then total all of the inlet emissions and total all of the outlet emissions:

$$M_f = Q_{sd} C_c (12) (0.0416) (10^{-6}) \quad (\text{Eq. 1})$$

Where:

M_f	=	Total gaseous organic emissions mass flow rate, kg/per hour (h).
C_c	=	Concentration of organic compounds as carbon in the vent gas, as determined by Method 25 or Method 25A, parts per million by volume (ppmv), dry basis.
Q_{sd}	=	Volumetric flow rate of gases entering or exiting the add-on control device, as determined by Method 2, 2A, 2C, 2D, 2F, or 2G, dry standard cubic meters/hour (dscm/h).
0.0416	=	Conversion factor for molar volume, kg-moles per cubic meter (mol/m^3) (@ 293 Kelvin (K) and 760 millimeters of mercury (mmHg)).

(e) For each test run, determine the add-on control device organic emissions destruction or removal

efficiency, using Equation 2 of this section:

$$\text{DRE} = \frac{M_{fi} - M_{fo}}{M_{fi}} \times 100 \quad (\text{Eq. 2})$$

Where:

DRE	=	Organic emissions destruction or removal efficiency of the add-on control device, percent.
M_{fi}	=	Total gaseous organic emissions mass flow rate at the inlet(s) to the add-on control device, using Equation 1 of this section, kg/h.
M_{fo}	=	Total gaseous organic emissions mass flow rate at the outlet(s) of the add-on control device, using Equation 1 of this section, kg/h.

(f) Determine the emission destruction or removal efficiency of the add-on control device as the average of the efficiencies determined in the three test runs and calculated in Equation 2 of this section.

§63.4567 How do I establish the emission capture system and add-on control device operating limits during the performance test?

During the performance test required by §63.4560 and described in §§63.4564, 63.4565, and 63.4566, you must establish the operating limits required by §63.4492 according to this section, unless you have received

approval for alternative monitoring and operating limits under §63.8(f) as specified in §63.4492.

(a) Thermal oxidizers. If your add-on control device is a thermal oxidizer, establish the operating limits according to paragraphs (a)(1) and (2) of this section.

(1) During the performance test, you must monitor and record the combustion temperature at least once every 15 minutes during each of the three test runs. You must monitor the temperature in the firebox of the thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs.

(2) Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. This average combustion temperature is the minimum operating limit for your thermal oxidizer.

(b) Catalytic oxidizers. If your add-on control device is a catalytic oxidizer, establish the operating limits according to either paragraphs (b)(1) and (2) or paragraphs (b)(3) and (4) of this section.

(1) During the performance test, you must monitor and record the temperature just before the catalyst bed

and the temperature difference across the catalyst bed at least once every 15 minutes during each of the three test runs.

(2) Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed and the average temperature difference across the catalyst bed maintained during the performance test. These are the minimum operating limits for your catalytic oxidizer.

(3) You must monitor the temperature at the inlet to the catalyst bed and implement a site-specific inspection and maintenance plan for your catalytic oxidizer as specified in paragraph (b)(4) of this section. During the performance test, you must monitor and record the temperature just before the catalyst bed at least once every 15 minutes during each of the three test runs. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed during the performance test. This is the minimum operating limit for your catalytic oxidizer.

(4) You must develop and implement an inspection and maintenance plan for your catalytic oxidizer(s) for

which you elect to monitor according to paragraph (b)(3) of this section. The plan must address, at a minimum, the elements specified in paragraphs (b)(4)(i) through (iii) of this section.

(i) Annual sampling and analysis of the catalyst activity (i.e., conversion efficiency) following the manufacturer's or catalyst supplier's recommended procedures. If problems are found during the catalyst activity test, you must replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations.

(ii) Monthly external inspection of the catalytic oxidizer system, including the burner assembly and fuel supply lines for problems and, as necessary, adjust the equipment to assure proper air-to-fuel mixtures.

(iii) Annual internal inspection of the catalyst bed to check for channeling, abrasion, and settling. If problems are found during the annual internal inspection of the catalyst, you must replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations. If the catalyst bed is replaced and is not of like or better kind and quality as the old catalyst then you must conduct a new performance

test to determine destruction efficiency according to §63.4566. If a catalyst bed is replaced and the replacement catalyst is of like or better kind and quality as the old catalyst, then a new performance test to determine destruction efficiency is not required and you may continue to use the previously established operating limits for that catalytic oxidizer.

(c) Regenerative carbon adsorbers. If your add-on control device is a regenerative carbon adsorber, establish the operating limits according to paragraphs (c)(1) and (2) of this section.

(1) You must monitor and record the total regeneration desorbing gas (e.g., steam or nitrogen) mass flow for each regeneration cycle, and the carbon bed temperature after each carbon bed regeneration and cooling cycle for the regeneration cycle either immediately preceding or immediately following the performance test.

(2) The operating limits for your regenerative carbon adsorber are the minimum total desorbing gas mass flow recorded during the regeneration cycle and the maximum carbon bed temperature recorded after the cooling cycle.

(d) Condensers. If your add-on control device is a condenser, establish the operating limits according to paragraphs (d)(1) and (2) of this section.

(1) During the performance test, you must monitor and record the condenser outlet (product side) gas temperature at least once every 15 minutes during each of the three test runs.

(2) Use the data collected during the performance test to calculate and record the average condenser outlet (product side) gas temperature maintained during the performance test. This average condenser outlet gas temperature is the maximum operating limit for your condenser.

(e) Concentrators. If your add-on control device includes a concentrator, you must establish operating limits for the concentrator according to paragraphs (e)(1) through (4) of this section.

(1) During the performance test, you must monitor and record the desorption concentrate stream gas temperature at least once every 15 minutes during each of the three runs of the performance test.

(2) Use the data collected during the performance test to calculate and record the average temperature.

This is the minimum operating limit for the desorption concentrate gas stream temperature.

(3) During the performance test, you must monitor and record the pressure drop of the dilute stream across the concentrator at least once every 15 minutes during each of the three runs of the performance test.

(4) Use the data collected during the performance test to calculate and record the average pressure drop. This is the minimum operating limit for the dilute stream across the concentrator.

(f) Emission capture systems. For each capture device that is not part of a PTE that meets the criteria of §63.4565(a), establish an operating limit for either the gas volumetric flow rate or duct static pressure, as specified in paragraphs (f)(1) and (2) of this section. The operating limit for a PTE is specified in Table 1 to this subpart.

(1) During the capture efficiency determination required by §63.4560 and described in §§63.4564 and 63.4565, you must monitor and record either the gas volumetric flow rate or the duct static pressure for each separate capture device in your emission capture system at least once every 15 minutes during each of the three

test runs at a point in the duct between the capture device and the add-on control device inlet.

(2) Calculate and record the average gas volumetric flow rate or duct static pressure for the three test runs for each capture device. This average gas volumetric flow rate or duct static pressure is the minimum operating limit for that specific capture device.

§63.4568 What are the requirements for continuous parameter monitoring system installation, operation, and maintenance?

(a) General. You must install, operate, and maintain each CPMS specified in paragraphs (c), (e), (f), and (g) of this section according to paragraphs (a)(1) through (6) of this section. You must install, operate, and maintain each CPMS specified in paragraphs (b) and (d) of this section according to paragraphs (a)(3) through (5) of this section.

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four equally spaced successive cycles of CPMS operation in 1 hour.

(2) You must determine the average of all recorded readings for each successive 3-hour period of the

emission capture system and add-on control device operation.

(3) You must record the results of each inspection, calibration, and validation check of the CPMS.

(4) You must maintain the CPMS at all times and have available necessary parts for routine repairs of the monitoring equipment.

(5) You must operate the CPMS and collect emission capture system and add-on control device parameter data at all times that a controlled coating operation is operating, except during monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, if applicable, calibration checks and required zero and span adjustments).

(6) You must not use emission capture system or add-on control device parameter data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities when calculating data averages. You must use all the data collected during all other periods in calculating the data averages for determining compliance with the emission capture system and add-on control device operating limits.

(7) A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the CPMS to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system is out-of-control and data are not available for required calculations is a deviation from the monitoring requirements.

(b) Capture system bypass line. You must meet the requirements of paragraphs (b)(1) and (2) of this section for each emission capture system that contains bypass lines that could divert emissions away from the add-on control device to the atmosphere.

(1) You must monitor or secure the valve or closure mechanism controlling the bypass line in a nondiverting position in such a way that the valve or closure mechanism cannot be opened without creating a record that the valve was opened. The method used to monitor or secure the valve or closure mechanism must meet one of the requirements specified in paragraphs (b)(1)(i) through (v) of this section.

(i) Flow control position indicator. Install, calibrate, maintain, and operate according to the

manufacturer's specifications a flow control position indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add-on control device or diverted from the add-on control device. The time of occurrence and flow control position must be recorded, as well as every time the flow direction is changed. The flow control position indicator must be installed at the entrance to any bypass line that could divert the emissions away from the add-on control device to the atmosphere.

(ii) Car-seal or lock-and-key valve closures.

Secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. You must visually inspect the seal or closure mechanism at least once every month to ensure that the valve is maintained in the closed position, and the emissions are not diverted away from the add-on control device to the atmosphere.

(iii) Valve closure monitoring. Ensure that any bypass line valve is in the closed (nondiverting) position through monitoring of valve position at least once every 15 minutes. You must inspect the monitoring

system at least once every month to verify that the monitor will indicate valve position.

(iv) Automatic shutdown system. Use an automatic shutdown system in which the coating operation is stopped when flow is diverted by the bypass line away from the add-on control device to the atmosphere when the coating operation is running. You must inspect the automatic shutdown system at least once every month to verify that it will detect diversions of flow and shut down the coating operation.

(v) Flow direction indicator. Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow direction indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add-on control device or diverted from the add-on control device. Each time the flow direction changes, the next reading of the time of occurrence and flow direction must be recorded. The flow direction indicator must be installed in each bypass line or air makeup supply line that could divert the emissions away from the add-on control device to the atmosphere.

(2) If any bypass line is opened, you must include

a description of why the bypass line was opened and the length of time it remained open in the semiannual compliance reports required in §63.4520.

(c) Thermal oxidizers and catalytic oxidizers. If you are using a thermal oxidizer or catalytic oxidizer as an add-on control device (including those used with concentrators or with carbon adsorbers to treat desorbed concentrate streams), you must comply with the requirements in paragraphs (c)(1) through (3) of this section:

(1) For a thermal oxidizer, install a gas temperature monitor in the firebox of the thermal oxidizer or in the duct immediately downstream of the firebox before any substantial heat exchange occurs.

(2) For a catalytic oxidizer, install gas temperature monitors upstream and/or downstream of the catalyst bed as required in §63.3967(b).

(3) For all thermal oxidizers and catalytic oxidizers, you must meet the requirements in paragraphs (a) and (c)(3)(i) through (v) of this section for each gas temperature monitoring device.

(i) Locate the temperature sensor in a position that provides a representative temperature.

(ii) Use a temperature sensor with a measurement sensitivity of 5 degrees Fahrenheit or 1.0 percent of the temperature value, whichever is larger.

(iii) Before using the sensor for the first time or when relocating or replacing the sensor, perform a validation check by comparing the sensor output to a calibrated temperature measurement device or by comparing the sensor output to a simulated temperature.

(iv) Conduct an accuracy audit every quarter and after every deviation. Accuracy audit methods include comparisons of sensor output to redundant temperature sensors, to calibrated temperature measurement devices, or to temperature simulation devices.

(v) Conduct a visual inspection of each sensor every quarter if redundant temperature sensors are not used.

(d) Regenerative carbon adsorbers. If you are using a regenerative carbon adsorber as an add-on control device, you must monitor the total regeneration desorbing gas (e.g., steam or nitrogen) mass flow for each regeneration cycle, the carbon bed temperature after each regeneration and cooling cycle, and comply with paragraphs (a)(3) through (5) and (d)(1) through (3) of

this section.

(1) The regeneration desorbing gas mass flow monitor must be an integrating device having a measurement sensitivity of plus or minus 10 percent capable of recording the total regeneration desorbing gas mass flow for each regeneration cycle.

(2) The carbon bed temperature monitor must be capable of recording the temperature within 15 minutes of completing any carbon bed cooling cycle.

(3) For all regenerative carbon adsorbers, you must meet the requirements in paragraphs (c)(3)(i) through (v) of this section for each temperature monitoring device.

(e) Condensers. If you are using a condenser, you must monitor the condenser outlet (product side) gas temperature and comply with paragraphs (a) and (e)(1) and (2) of this section.

(1) The temperature monitor must provide a gas temperature record at least once every 15 minutes.

(2) For all condensers, you must meet the requirements in paragraphs (c)(3)(i) through (v) of this section for each temperature monitoring device.

(f) Concentrators. If you are using a concentrator, such as a zeolite wheel or rotary carbon

bed concentrator, you must comply with the requirements in paragraphs (f)(1) and (2) of this section.

(1) You must install a temperature monitor in the desorption gas stream. The temperature monitor must meet the requirements in paragraphs (a) and (c)(3) of this section.

(2) You must install a device to monitor pressure drop across the zeolite wheel or rotary carbon bed. The pressure monitoring device must meet the requirements in paragraphs (a) and (g)(2) of this section.

(g) Emission capture systems. The capture system monitoring system must comply with the applicable requirements in paragraphs (g)(1) and (2) of this section.

(1) For each flow measurement device, you must meet the requirements in paragraphs (a) and (g)(1)(i) through (vii) of this section.

(i) Locate a flow sensor in a position that provides a representative flow measurement in the duct from each capture device in the emission capture system to the add-on control device.

(ii) Use a flow sensor with an accuracy of at least 10 percent of the flow.

(iii) Perform an initial sensor calibration in accordance with the manufacturer's requirements.

(iv) Perform a validation check before initial use or upon relocation or replacement of a sensor.

Validation checks include comparison of sensor values with electronic signal simulations or via relative accuracy testing.

(v) Conduct an accuracy audit every quarter and after every deviation. Accuracy audit methods include comparisons of sensor values with electronic signal simulations or via relative accuracy testing.

(vi) Perform leak checks monthly.

(vii) Perform visual inspections of the sensor system quarterly if there is no redundant sensor.

(2) For each pressure drop measurement device, you must comply with the requirements in paragraphs (a) and (g)(2)(i) through (vii) of this section.

(i) Locate the pressure sensor(s) in or as close to a position that provides a representative measurement of the pressure drop across each opening you are monitoring.

(ii) Use a pressure sensor with an accuracy of at least 0.5 inches of water column or 5 percent of the measured value, whichever is larger.

(iii) Perform an initial calibration of the sensor according to the manufacturer's requirements.

(iv) Conduct a validation check before initial operation or upon relocation or replacement of a sensor. Validation checks include comparison of sensor values to calibrated pressure measurement devices or to pressure simulation using calibrated pressure sources.

(v) Conduct accuracy audits every quarter and after every deviation. Accuracy audits include comparison of sensor values to calibrated pressure measurement devices or to pressure simulation using calibrated pressure sources.

(vi) Perform monthly leak checks on pressure connections. A pressure of at least 1.0 inches of water column to the connection must yield a stable sensor result for at least 15 seconds.

(vii) Perform a visual inspection of the sensor at least monthly if there is no redundant sensor.

Other Requirements and Information

§63.4580 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (EPA), or a delegated authority such as your State, local, or tribal

agency. If the Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency. (b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (4) of this section:

(1) Approval of alternatives to the requirements in §§63.4481 through 4483 and §§63.4490 through 4493.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

§63.4581 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA, in 40 CFR 63.2, and in this section as follows:

Additive means a material that is added to a coating after purchase from a supplier (e.g., catalysts, activators, accelerators).

Add-on control means an air pollution control device, such as a thermal oxidizer or carbon adsorber, that reduces pollution in an air stream by destruction or removal before discharge to the atmosphere.

Adhesive, adhesive coating means any chemical substance that is applied for the purpose of bonding two surfaces together. Products used on humans and animals, adhesive tape, contact paper, or any other product with an adhesive incorporated onto or in an inert substrate shall not be considered adhesives under this subpart.

Assembled on-road vehicle coating means any coating operation in which coating is applied to the surface of some component or surface of a fully assembled motor vehicle or trailer intended for on-road use including, but not limited to, components or surfaces on automobiles and light-duty trucks that have been repaired after a collision or otherwise repainted, fleet delivery trucks,

and motor homes and other recreational vehicles (including camping trailers and fifth wheels). Assembled on-road vehicle coating includes the concurrent coating of parts of the assembled on-road vehicle that are painted off-vehicle to protect systems, equipment, or to allow full coverage. Assembled on-road vehicle coating does not include surface coating operations that meet the applicability criteria of the Automobiles and Light-Duty Trucks NESHAP. Assembled on-road vehicle coating also does not include the use of adhesives, sealants, and caulks used in assembling on-road vehicles.

Automotive lamp coating means any coating operation in which coating is applied to the surface of some component of the body of an exterior automotive lamp, including the application of reflective argenteous coatings and clear topcoats. Exterior automotive lamps include head lamps, tail lamps, turn signals, brake lights, and side marker lights. Automotive lamp coating does not include any coating operation performed on an assembled on-road vehicle.

Capture device means a hood, enclosure, room, floor sweep, or other means of containing or collecting emissions and directing those emissions into an add-on

air pollution control device.

Capture efficiency or capture system efficiency means the portion (expressed as a percentage) of the pollutants from an emission source that is delivered to an add-on control device.

Capture system means one or more capture devices intended to collect emissions generated by a coating operation in the use of coatings or cleaning materials, both at the point of application and at subsequent points where emissions from the coatings and cleaning materials occur, such as flashoff, drying, or curing. As used in this subpart, multiple capture devices that collect emissions generated by a coating operation are considered a single capture system.

Cleaning material means a solvent used to remove contaminants and other materials, such as dirt, grease, oil, and dried or wet coating (e.g., depainting), from a substrate before or after coating application or from equipment associated with a coating operation, such as spray booths, spray guns, racks, tanks, and hangers. Thus, it includes any cleaning material used on substrates or equipment or both.

Coating means a material applied to a substrate for

decorative, protective, or functional purposes. Such materials include, but are not limited to, paints, sealants, liquid plastic coatings, caulks, inks, adhesives, and maskants. Decorative, protective, or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances, or paper film or plastic film which may be pre-coated with an adhesive by the film manufacturer, are not considered coatings for the purposes of this subpart.

A liquid plastic coating means a coating made from fine particle-size polyvinyl chloride (PVC) in solution (also referred to as a plastisol).

Coating operation means equipment used to apply cleaning materials to a substrate to prepare it for coating application (surface preparation) or to remove dried coating; to apply coating to a substrate (coating application) and to dry or cure the coating after application; or to clean coating operation equipment (equipment cleaning). A single coating operation may include any combination of these types of equipment, but always includes at least the point at which a given quantity of coating or cleaning material is applied to a given part and all subsequent points in the affected

source where organic HAP are emitted from the specific quantity of coating or cleaning material on the specific part. There may be multiple coating operations in an affected source. Coating application with handheld, non-refillable aerosol containers, touch-up markers, or marking pens is not a coating operation for the purposes of this subpart.

Coatings solids means the nonvolatile portion of the coating that makes up the dry film.

Continuous parameter monitoring system (CPMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this subpart, used to sample, condition (if applicable), analyze, and provide a record of coating operation, or capture system, or add-on control device parameters.

Controlled coating operation means a coating operation from which some or all of the organic HAP emissions are routed through an emission capture system and add-on control device.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (1) Fails to meet any requirement or obligation

established by this subpart including but not limited to, any emission limit or operating limit or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limit, or operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Emission limitation means the aggregate of all requirements associated with a compliance option including emission limit, operating limit, work practice standard, etc.

Enclosure means a structure that surrounds a source of emissions and captures and directs the emissions to an add-on control device.

Exempt compound means a specific compound that is not considered a VOC due to negligible photochemical reactivity. The exempt compounds are listed in 40 CFR 51.100(s).

Facility maintenance means the routine repair or

renovation (including the surface coating) of the tools, equipment, machinery, and structures that comprise the infrastructure of the affected facility and that are necessary for the facility to function in its intended capacity.

General use coating means any coating operation that is not an automotive lamp, TPO, or assembled on-road vehicle coating operation.

Hobby shop means any surface coating operation, located at an affected source, that is used exclusively for personal, noncommercial purposes by the affected source's employees or assigned personnel.

Manufacturer's formulation data means data on a material (such as a coating) that are supplied by the material manufacturer based on knowledge of the ingredients used to manufacture that material, rather than based on testing of the material with the test methods specified in §63.4541. Manufacturer's formulation data may include, but are not limited to, information on density, organic HAP content, volatile organic matter content, and coating solids content.

Mass fraction of coating solids means the ratio of the mass of solids (also known as the mass of

nonvolatiles) to the mass of a coating in which it is contained; kg of coating solids per kg of coating.

Mass fraction of organic HAP means the ratio of the mass of organic HAP to the mass of a material in which it is contained, expressed as kg of organic HAP per kg of material.

Month means a calendar month or a pre-specified period of 28 days to 35 days to allow for flexibility in recordkeeping when data are based on a business accounting period.

Non-HAP coating means, for the purposes of this subpart, a coating that contains no more than 0.1 percent by mass of any individual organic HAP that is an OSHA-defined carcinogen as specified in 29 CFR 1910.1200(d)(4) and no more than 1.0 percent by mass for any other individual HAP.

Organic HAP content means the mass of organic HAP emitted per mass of coating solids used for a coating calculated using Equation 1 of §63.4541. The organic HAP content is determined for the coating in the condition it is in when received from its manufacturer or supplier and does not account for any alteration after receipt. For reactive adhesives in which some of the HAP react to form

solids and are not emitted to the atmosphere, organic HAP content is the mass of organic HAP that is emitted, rather than the organic HAP content of the coating as it is received.

Permanent total enclosure (PTE) means a permanently installed enclosure that meets the criteria of Method 204 of appendix M, 40 CFR part 51, for a PTE and that directs all the exhaust gases from the enclosure to an add-on control device.

Personal watercraft means a vessel (boat) which uses an inboard motor powering a water jet pump as its primary source of motive power and which is designed to be operated by a person or persons sitting, standing, or kneeling on the vessel, rather than in the conventional manner of sitting or standing inside the vessel.

Plastic part and product means any piece or combination of pieces of which at least one has been formed from one or more resins. Such pieces may be solid, porous, flexible or rigid.

Protective oil means an organic material that is applied to metal for the purpose of providing lubrication or protection from corrosion without forming a solid film. This definition of protective oil includes, but is

not limited to, lubricating oils, evaporative oils (including those that evaporate completely), and extrusion oils.

Reactive adhesive means adhesive systems composed, in part, of volatile monomers that react during the adhesive curing reaction, and, as a result, do not evolve from the film during use. These volatile components instead become integral parts of the adhesive through chemical reaction. At least 70 percent of the liquid components of the system, excluding water, react during the process.

Research or laboratory facility means a facility whose primary purpose is for research and development of new processes and products, that is conducted under the close supervision of technically trained personnel, and is not engaged in the manufacture of final or intermediate products for commercial purposes, except in a de minimis manner.

Responsible official means responsible official as defined in 40 CFR 70.2.

Startup, initial means the first time equipment is brought online in a facility.

Surface preparation means use of a cleaning material

on a portion of or all of a substrate. This includes use of a cleaning material to remove dried coating, which is sometimes called depainting.

Temporary total enclosure means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source as defined in Method 204 of appendix M, 40 CFR part 51.

Thermoplastic olefin (TPO) means polyolefins (blends of polypropylene, polyethylene and its copolymers). This also includes blends of TPO with polypropylene and polypropylene alloys including, but not limited to, thermoplastic elastomer (TPE), TPE polyurethane (TPU), TPE polyester (TPEE), TPE polyamide (TPAE), and thermoplastic elastomer polyvinyl chloride (TPVC).

Thermoplastic olefin (TPO) coating means any coating operation in which the coatings are components of a system of coatings applied to a TPO substrate, including adhesion promoters, primers, color coatings, clear coatings and topcoats. Thermoplastic olefin coating does not include the coating of TPO substrates on assembled on-road vehicles.

Thinner means an organic solvent that is added to a coating after the coating is received from the supplier.

Total volatile hydrocarbon (TVH) means the total amount of nonaqueous volatile organic matter determined according to Methods 204 and 204A through 204F of appendix M to 40 CFR part 51 and substituting the term TVH each place in the methods where the term VOC is used. The TVH includes both VOC and non-VOC.

Uncontrolled coating operation means a coating operation from which none of the organic HAP emissions are routed through an emission capture system and add-on control device.

Volatile organic compound (VOC) means any compound defined as VOC in 40 CFR 51.100(s).

Wastewater means water that is generated in a coating operation and is collected, stored, or treated prior to being discarded or discharged.

Tables to Subpart PPPP of Part 63

If you are required to comply with operating limits by §63.4491(c), you must comply with the applicable operating limits in the following table:

Table 1 to Subpart PPPP of Part 63. Operating Limits if Using the Emission Rate with Add-On Controls Option

For the following device...	you must meet the following operating limit...	and you must demonstrate continuous compliance with the operating limit by...
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1. thermal oxidizer	a. the average combustion temperature in any 3-hour period must not fall below the combustion temperature limit established according to §63.4567(a).	i. collecting the combustion temperature data according to §63.4568(c); ii. reducing the data to 3-hour block averages; and iii. maintaining the 3-hour average combustion temperature at or above the temperature limit.
2. catalytic oxidizer	a. the average temperature measured just before the catalyst bed in any 3-hour period must not fall below the limit established according to §63.4567(b); and either	i. collecting the temperature data according to §63.4568(c); ii. reducing the data to 3-hour block averages; and iii. maintaining the 3-hour average temperature before the catalyst bed at or above the temperature limit.
	b. ensure that the average temperature difference across the catalyst bed in any 3-hour period does not fall below the temperature difference limit established according to §63.4567(b)(2); or	i. collecting the temperature data according to §63.4568(c); ii. reducing the data to 3-hour block averages; and iii. maintaining the 3-hour average temperature difference at or above the temperature difference limit.

	<p>c. develop and implement an inspection and maintenance plan according to §63.4567(b)(4).</p>	<p>i. maintaining an up-to-date inspection and maintenance plan, records of annual catalyst activity checks, records of monthly inspections of the oxidizer system, and records of the annual internal inspections of the catalyst bed. If a problem is discovered during a monthly or annual inspection required by §63.4567(b)(4), you must take corrective action as soon as practicable consistent with the manufacturer's recommendations.</p>
<p>3. regenerative carbon adsorber</p>	<p>a. the total regeneration desorbing gas (e.g., steam or nitrogen) mass flow for each carbon bed regeneration cycle must not fall below the total regeneration desorbing gas mass flow limit established according to §63.4567(c); and</p>	<p>i. measuring the total regeneration desorbing gas (e.g., steam or nitrogen) mass flow for each regeneration cycle according to §63.4568(d); and ii. maintaining the total regeneration desorbing gas mass flow at or above the mass flow limit.</p>

	<p>b. the temperature of the carbon bed, after completing each regeneration and any cooling cycle, must not exceed the carbon bed temperature limit established according to §63.4567(c).</p>	<p>i. measuring the temperature of the carbon bed after completing each regeneration and any cooling cycle according to §63.4568(d); and</p> <p>ii. operating the carbon beds such that each carbon bed is not returned to service until completing each regeneration and any cooling cycle until the recorded temperature of the carbon bed is at or below the temperature limit.</p>
4. condenser	<p>a. the average condenser outlet (product side) gas temperature in any 3-hour period must not exceed the temperature limit established according to §63.4567(d).</p>	<p>i. collecting the condenser outlet (product side) gas temperature according to §63.4568(e);</p> <p>ii. reducing the data to 3-hour block averages; and</p> <p>iii. maintaining the 3-hour average gas temperature at the outlet at or below the temperature limit.</p>
5. concentrators, including zeolite wheels and rotary carbon adsorbers	<p>a. the average gas temperature of the desorption concentrate stream in any 3-hour period must not fall below the limit established according to §63.4567(e); and</p>	<p>i. collecting the temperature data according to §63.4568(f);</p> <p>ii. reducing the data to 3-hour block averages; and</p> <p>iii. maintaining the 3-hour average temperature at or above the temperature limit.</p>

	<p>b. the average pressure drop of the dilute stream across the concentrator in any 3-hour period must not fall below the limit established according to §63.4567(e).</p>	<p>i. collecting the pressure drop data according to 63.4568(f);</p> <p>ii. reducing the pressure drop data to 3-hour block averages; and</p> <p>iii. maintaining the 3-hour average pressure drop at or above the pressure drop limit.</p>
<p>6. emission capture system that is a PTE according to §63.4565(a)</p>	<p>a. the direction of the air flow at all times must be into the enclosure; and either</p>	<p>i. collecting the direction of air flow, and either the facial velocity of air through all natural draft openings according to §63.4568(g)(1) or the pressure drop across the enclosure according to §63.4568(g)(2); and</p> <p>ii. maintaining the facial velocity of air flow through all natural draft openings or the pressure drop at or above the facial velocity limit or pressure drop limit, and maintaining the direction of air flow into the enclosure at all times.</p>
	<p>b. the average facial velocity of air through all natural draft openings in the enclosure must be at least 200 feet per minute; or</p>	<p>i. See items 6.a.i and 6.a.ii.</p>

	c. the pressure drop across the enclosure must be at least 0.007 inch H ₂ O, as established in Method 204 of appendix M to 40 CFR part 51.	i. See items 6.a.i and 6.a.ii.
7. emission capture system that is not a PTE according to §63.4565(a)	a. the average gas volumetric flow rate or duct static pressure in each duct between a capture device and add-on control device inlet in any 3-hour period must not fall below the average volumetric flow rate or duct static pressure limit established for that capture device according to §63.4567(f).	i. collecting the gas volumetric flow rate or duct static pressure for each capture device according to §63.4568(g); ii. reducing the data to 3-hour block averages; and iii. maintaining the 3-hour average gas volumetric flow rate or duct static pressure for each capture device at or above the gas volumetric flow rate or duct static pressure limit.

You must comply with the applicable General Provisions requirements according to the following table:

Table 2 to Subpart PPPP of Part 63. Applicability of General Provisions to Subpart PPPP of Part 63

Citation	Subject	Applicable to Subpart PPPP	Explanation
§63.1(a)(1)-(14)	General Applicability	Yes	

§63.1(b)(1)-(3)	Initial Applicability Determination	Yes	Applicability to subpart PPPP is also specified in §63.4481.
§63.1(c)(1)	Applicability After Standard Established	Yes	
§63.1(c)(2)-(3)	Applicability of Permit Program for Area Sources	No	Area sources are not subject to subpart PPPP.
§63.1(c)(4)-(5)	Extensions and Notifications	Yes	
§63.1(e)	Applicability of Permit Program Before Relevant Standard is Set	Yes	
§63.2	Definitions	Yes	Additional definitions are specified in §63.4581.
§63.3(a)-(c)	Units and Abbreviations	Yes	
§63.4(a)(1)-(5)	Prohibited Activities	Yes	
§63.4(b)-(c)	Circumvention /Severability	Yes	
§63.5(a)	Construction/Reconstruction	Yes	

§63.5(b)(1)-(6)	Requirements for Existing, Newly Constructed, and Reconstructed Sources	Yes	
§63.5(d)	Application for Approval of Construction/Reconstruction	Yes	
§63.5(e)	Approval of Construction/Reconstruction	Yes	
§63.5(f)	Approval of Construction/Reconstruction Based on Prior State Review	Yes	
§63.6(a)	Compliance With Standards and Maintenance Requirements - Applicability	Yes	
§63.6(b)(1)-(7)	Compliance Dates for New and Reconstructed Sources	Yes	Section 63.4483 specifies the compliance dates.

§63.6(c)(1)-(5)	Compliance Dates for Existing Sources	Yes	Section 63.4483 specifies the compliance dates.
§63.6(e)(1)-(2)	Operation and Maintenance	Yes	
§63.6(e)(3)	Startup, Shutdown, and Malfunction Plan	Yes	Only sources using an add-on control device to comply with the standard must complete startup, shutdown, and malfunction plans.
§63.6(f)(1)	Compliance Except During Startup, Shutdown, and Malfunction	Yes	Applies only to sources using an add-on control device to comply with the standard.
§63.6(f)(2)-(3)	Methods for Determining Compliance	Yes	
§63.6(g)(1)-(3)	Use of an Alternative Standard	Yes	

§63.6(h)	Compliance With Opacity/Visible Emission Standards	No	Subpart PPPP does not establish opacity standards and does not require continuous opacity monitoring systems (COMS).
§63.6(i)(1)-(16)	Extension of Compliance	Yes	
§63.6(j)	Presidential Compliance Exemption	Yes	
§63.7(a)(1)	Performance Test Requirements - Applicability	Yes	Applies to all affected sources. Additional requirements for performance testing are specified in §§63.4564, 63.4565, and 63.4566.

§63.7(a)(2)	Performance Test Requirements - Dates	Yes	Applies only to performance tests for capture system and control device efficiency at sources using these to comply with the standards. Section 63.4560 specifies the schedule for performance test requirements that are earlier than those specified in §63.7(a)(2).
§63.7(a)(3)	Performance Tests Required By the Administrator	Yes	
§63.7(b)-(e)	Performance Test Requirements - Notification, Quality Assurance, Facilities Necessary for Safe Testing, Conditions During Test	Yes	Applies only to performance tests for capture system and add-on control device efficiency at sources using these to comply with the standards.

§63.7(f)	Performance Test Requirements - Use of Alternative Test Method	Yes	Applies to all test methods except those used to determine capture system efficiency.
§63.7(g)-(h)	Performance Test Requirements - Data Analysis, Recordkeeping, Reporting, Waiver of Test	Yes	Applies only to performance tests for capture system and add-on control device efficiency at sources using these to comply with the standards.
§63.8(a)(1)-(3)	Monitoring Requirements - Applicability	Yes	Applies only to monitoring of capture system and add-on control device efficiency at sources using these to comply with the standards. Additional requirements for monitoring are specified in §63.4568.
§63.8(a)(4)	Additional Monitoring Requirements	No	Subpart PPPP does not have monitoring requirements for flares.
§63.8(b)	Conduct of Monitoring	Yes	

§63.8(c)(1)-(3)	Continuous Monitoring Systems (CMS) Operation and Maintenance	Yes	Applies only to monitoring of capture system and add-on control device efficiency at sources using these to comply with the standard. Additional requirements for CMS operations and maintenance are specified in §63.4568.
§63.8(c)(4)	CMS	No	Section 63.4568 specifies the requirements for the operation of CMS for capture systems and add-on control devices at sources using these to comply.
§63.8(c)(5)	COMS	No	Subpart PPPP does not have opacity or visible emission standards.

§63.8(c)(6)	CMS Requirements	No	Section 63.4568 specifies the requirements for monitoring systems for capture systems and add-on control devices at sources using these to comply.
§63.8(c)(7)	CMS Out-of-Control Periods	Yes	
§63.8(c)(8)	CMS Out-of-Control Periods and Reporting	No	Section 63.4520 requires reporting of CMS out-of-control periods.
§63.8(d)-(e)	Quality Control Program and CMS Performance Evaluation	No	Subpart PPPP does not require the use of continuous emissions monitoring systems.
§63.8(f)(1)-(5)	Use of an Alternative Monitoring Method	Yes	

§63.8(f)(6)	Alternative to Relative Accuracy Test	No	Subpart PPPP does not require the use of continuous emissions monitoring systems.
§63.8(g)(1)-(5)	Data Reduction	No	Sections 63.4567 and 63.4568 specify monitoring data reduction.
§63.9(a)-(d)	Notification Requirements	Yes	
§63.9(e)	Notification of Performance Test	Yes	Applies only to capture system and add-on control device performance tests at sources using these to comply with the standards.
§63.9(f)	Notification of Visible Emissions/Opacity Test	No	Subpart PPPP does not have opacity or visible emission standards.
§63.9(g)(1)-(3)	Additional Notifications When Using CMS	No	Subpart PPPP does not require the use of continuous emissions monitoring systems.

§63.9(h)	Notification of Compliance Status	Yes	Section 63.4510 specifies the dates for submitting the notification of compliance status.
§63.9(i)	Adjustment of Submittal Deadlines	Yes	
§63.9(j)	Change in Previous Information	Yes	
§63.10(a)	Recordkeeping / Reporting - Applicability and General Information	Yes	
§63.10(b)(1)	General Recordkeeping Requirements	Yes	Additional requirements are specified in §§63.4530 and 63.4531.
§63.10(b)(2)(i)-(v)	Recordkeeping Relevant to Startup, Shutdown, and Malfunction Periods and CMS	Yes	Requirements for startup, shutdown, and malfunction records only apply to add-on control devices used to comply with the standards.
§63.10(b)(2)(vi)-(xi)		Yes	
§63.10(b)(2)(xii)	Records	Yes	

§63.10(b)(2) (xiii)		No	Subpart PPPP does not require the use of continuous emissions monitoring systems.
§63.10(b)(2) (xiv)		Yes	
§63.10(b)(3)	Recordkeeping Requirements for Applicability Determinations	Yes	
§63.10(c)(1)-(6)	Additional Recordkeeping Requirements for Sources with CMS	Yes	
§63.10(c)(7)-(8)		No	The same records are required in §63.4520(a)(7).
§63.10(c)(9)-(15)		Yes	
§63.10(d)(1)	General Reporting Requirements	Yes	Additional requirements are specified in §63.4520.
§63.10(d)(2)	Report of Performance Test Results	Yes	Additional requirements are specified in §63.4520(b).

§63.10(d)(3)	Reporting Opacity or Visible Emissions Observations	No	Subpart PPPP does not require opacity or visible emissions observations.
§63.10(d)(4)	Progress Reports for Sources With Compliance Extensions	Yes	
§63.10(d)(5)	Startup, Shutdown, and Malfunction Reports	Yes	Applies only to add-on control devices at sources using these to comply with the standards.
§63.10(e)(1)-(2)	Additional CMS Reports	No	Subpart PPPP does not require the use of continuous emissions monitoring systems.
§63.10(e)(3)	Excess Emissions/CMS Performance Reports	No	Section 63.4520(b) specifies the contents of periodic compliance reports.
§63.10(e)(4)	COMS Data Reports	No	Subpart PPPP does not specify requirements for opacity or COMS.

§63.10(f)	Recordkeeping / Reporting Waiver	Yes	
§63.11	Control Device Requirements/ Flares	No	Subpart PPPP does not specify use of flares for compliance.
§63.12	State Authority and Delegations	Yes	
§63.13	Addresses	Yes	
§63.14	Incorporation by Reference	Yes	
§63.15	Availability of Information/ Confidential- ity	Yes	

You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data and which match either the solvent blend name or the chemical abstract series (CAS) number. If a solvent blend matches both the name and CAS number for an entry, that entry's organic HAP mass fraction must be used for that solvent blend. Otherwise, use the organic HAP mass fraction for the entry matching either the solvent blend name or CAS number, or use the organic HAP mass fraction from table 4 to this subpart if neither the name or CAS number match.

Table 3 to Subpart PPPP of Part 63. Default Organic HAP Mass Fraction for Solvents and Solvent Blends

Solvent/Solvent blend	CAS. No.	Average Organic HAP Mass Fraction	Typical Organic HAP, Percent by Mass
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1. Toluene	108-88-3	1.0	Toluene
2. Xylene(s)	1330-20-7	1.0	Xylenes, ethylbenzene
3. Hexane	110-54-3	0.5	n-hexane
4. n-Hexane	110-54-3	1.0	n-hexane
5. Ethylbenzene	100-41-4	1.0	Ethylbenzene
6. Aliphatic 140		0	None
7. Aromatic 100		0.02	1% xylene, 1% cumene
8. Aromatic 150		0.09	Naphthalene
9. Aromatic naphtha	64742-95-6	0.02	1% xylene, 1% cumene
10. Aromatic solvent	64742-94-5	0.1	Naphthalene
11. Exempt mineral spirits	8032-32-4	0	None
12. Ligroines (VM & P)	8032-32-4	0	None
13. Lactol spirits	64742-89-6	0.15	Toluene
14. Low aromatic white spirit	64742-82-1	0	None
15. Mineral spirits	64742-88-7	0.01	Xylenes
16. Hydrotreated naphtha	64742-48-9	0	None
17. Hydrotreated light distillate	64742-47-8	0.001	Toluene
18. Stoddard solvent	8052-41-3	0.01	Xylenes
19. Super high-flash naphtha	64742-95-6	0.05	Xylenes
20. Varsol® solvent	8052-49-3	0.01	0.5% xylenes, 0.5% ethylbenzene

21. VM & P naphtha	64742-89-8	0.06	3% toluene, 3% xylene
22. Petroleum distillate mixture	68477-31-6	0.08	4% naphthalene, 4% biphenyl

You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data.

Table 4 to Subpart PPPP of Part 63. Default Organic HAP Mass Fraction for Petroleum Solvent Groups^a

Solvent Type	Average Organic HAP Mass Fraction	Typical Organic HAP, Percent by Mass
Aliphatic ^b	0.03	1% Xylene, 1% Toluene, and 1% Ethylbenzene
Aromatic ^c	0.06	4% Xylene, 1% Toluene, and 1% Ethylbenzene

^a Use this table only if the solvent blend does not match any of the solvent blends in Table 3 to this subpart by either solvent blend name or CAS number and you only know whether the blend is aliphatic or aromatic.

^b Mineral Spirits 135, Mineral Spirits 150 EC, Naphtha, Mixed Hydrocarbon, Aliphatic Hydrocarbon, Aliphatic Naphtha, Naphthol Spirits, Petroleum Spirits, Petroleum Oil, Petroleum Naphtha, Solvent Naphtha, Solvent Blend.

^c Medium-flash Naphtha, High-flash Naphtha, Aromatic Naphtha, Light Aromatic Naphtha, Light Aromatic Hydrocarbons, Aromatic Hydrocarbons, Light Aromatic Solvent.

**Appendix A to Subpart PPPP of Part 63--Determination of
Weight Volatile Matter Content and Weight Solids Content
of Reactive Adhesives**

1.0 Applicability and Principle

1.1 Applicability: This method applies to the determination of weight volatile matter content and weight solids content for most one-part or multiple-part reactive adhesives. Reactive adhesives are composed, in large part, of monomers that react during the adhesive curing reaction, and, as a result, do not volatilize. The monomers become integral parts of the cured adhesive through chemical reaction. At least 70 weight percent of the system, excluding water and non-volatile solids such as fillers, react during the process. This method is not appropriate for cyanoacrylates. For cyanoacrylates, South Coast Air Quality Management District Test Method 316B should be used. This method is not appropriate for one-part moisture cure urethane adhesives or for silicone adhesives. For one-part moisture cure urethane adhesives and for silicone adhesives, EPA Method 24 should be used.

1.2 Principle: One-part and multiple-part reactive adhesives undergo a reactive conversion from liquid to solid during the application and assembly process. Reactive adhesives are applied to a single surface, but

then are usually quickly covered with another mating surface to achieve a bonded assembly. The monomers employed in such systems typically react and are converted to non-volatile solids. If left uncovered, as in a Method 24 (ASTM D2369) test, the reaction is inhibited by the presence of oxygen and volatile loss of the reactive components competes more heavily with the cure reaction. If this were to happen under normal use conditions, the adhesives would not provide adequate performance. This method minimizes this undesirable deterioration of the adhesive performance.

2.0 Materials and Apparatus

2.1 Aluminum foil, aluminum sheet, non-leaching plastic film or non-leaching plastic sheet, approximately 3 inches by 3 inches. Precondition the foil, film, or sheet for 30 minutes in an oven at 110 ± 5 degrees Celsius and store in a desiccator prior to use. Use tongs or rubber gloves or both to handle the foil, film, or sheet.

2.2 Flat, rigid support panels slightly larger than the foil, film, or sheet. Polypropylene with a minimum thickness of 1/8 inch is recommended for the support panels. Precondition the support panels for 30 minutes

in an oven at 110 ± 5 degrees Celsius and store in a desiccator prior to use. Use tongs or rubber gloves or both to handle the support panels.

2.3 Aluminum spacers, 1/8 inch thick. Precondition the spacers for 30 minutes in an oven at 110 ± 5 degrees Celsius and store in a desiccator prior to use. Use tongs or rubber gloves or both to handle the spacers.

2.4 Forced draft oven, type IIA or IIB as specified in ASTM E145-94 (Reapproved 2001), "Standard Specification for Gravity-Convection and Forced-Ventilation Ovens" (incorporated by reference, see §63.14).

2.5 Electronic balance capable of weighing to ± 0.0001 grams (0.1 mg).

2.6 Flat bottom weight (approximately 3 lbs) or clamps.

Material and Apparatus Notes

1 - The foil, film, or sheet should be thick or rigid enough so that it can be easily handled in the test procedure.

3.0 Procedure

3.1 Two procedures are provided. In Procedure A the initial specimen weight is determined by weighing the foil, film, or sheet before and after the specimen is dispensed onto the foil, film, or sheet. In Procedure B

the initial specimen weight is determined by weighing the adhesive cartridge (kit) before and after the specimen is dispensed.

3.2 At least four test specimens should be run for each test material. Run the test at room temperature, 74 degrees Fahrenheit (23 degrees Celsius).

Procedure A

1. Zero electronic balance.
2. Place 2 pieces of aluminum foil (or aluminum sheet, plastic film, or plastic sheet) on scale.
3. Record weight of aluminum foils. (A).
4. Tare balance.
5. Remove top piece of aluminum foil.
6. Dispense a 10 to 15 gram specimen of premixed adhesive onto bottom piece of aluminum foil. Place second piece of aluminum foil on top of the adhesive specimen to make a sandwich.
7. Record weight of sandwich (specimen and aluminum foils). (B).
8. Remove sandwich from scale, place sandwich between two support panels with aluminum spacers at the edges of the support panels to make a supported sandwich. The spacers provide a standard gap. Take

care to mate the edges.

9. Place the supported sandwich on a flat surface.
10. Place the weight on top of the supported sandwich to spread the adhesive specimen to a uniform thickness within the sandwich. Check that no adhesive squeezes out from between the pieces of aluminum foil or through tears in the aluminum foil.
11. Allow to cure 24 hours.
12. Remove the sandwich from between the support panels. Record the weight of the sandwich. This is referred to as the 24 hr weight. (C).
13. Bake sandwich at 110 degrees Celsius for 1 hour.
14. Remove sandwich from the oven, place immediately in a desiccator, and cool to room temperature. Record post bake sandwich weight. (D).

Procedure B

1. Zero electronic balance.
2. Place two pieces of aluminum foil (or aluminum sheet, plastic film, or plastic sheet) on scale.
3. Record weight of aluminum foils. (A).
4. Tare balance.
5. Place one support panel on flat surface. Place first piece of aluminum foil on top of this support

panel.

6. Record the weight of a pre-mixed sample of adhesive in its container. If dispensing the adhesive from a cartridge (kit), record the weight of the cartridge (kit) plus any dispensing tips. (F).
7. Dispense a 10 to 15 gram specimen of mixed adhesive onto the first piece of aluminum foil. Place second piece of aluminum foil on top of the adhesive specimen to make a sandwich.
8. Record weight of the adhesive container. If dispensing the adhesive from a cartridge (kit), record the weight of the cartridge (kit) plus any dispensing tips. (G).
9. Place the aluminum spacers at the edges of the bottom support panel polypropylene sheet. The spacers provide a standard gap.
10. Place the second support panel on top of the assembly to make a supported sandwich. Take care to mate the edges.
11. Place the supported sandwich on a flat surface.
12. Place the weight on top of the supported sandwich to spread the adhesive specimen to a uniform thickness within the sandwich. Check that no adhesive

squeezes out from between the pieces of aluminum foil or through tears in the aluminum foil.

13. Allow to cure 24 hours.
14. Remove the sandwich from between the support panels.
Record the weight of the sandwich. This is referred to as the 24 hr weight. (C).
15. Bake sandwich at 110 degrees Celsius for 1 hour.
16. Remove sandwich from the oven, place immediately in a desiccator, and cool to room temperature.
17. Record post-bake sandwich weight. (D).

Procedural Notes

- 1 - The support panels may be omitted if the aluminum foil (or aluminum sheet, plastic film, or plastic sheet) will not tear and the adhesive specimen will spread to a uniform thickness within the sandwich when the flat weight is placed directly on top of the sandwich.
- 2 - Clamps may be used instead of a flat bottom weight to spread the adhesive specimen to a uniform thickness within the sandwich.
- 3 - When dispensing from a static mixer, purging is necessary to ensure uniform, homogeneous specimens. The weighing in Procedure B, Step 6 must be performed after any purging.

4 - Follow the adhesive manufacturer's directions for mixing and for dispensing from a cartridge (kit).

4.0 Calculations

4.1 The total weight loss from curing and baking of each specimen is used to determine the weight percent volatile matter content of that specimen

Procedure A

Weight of original specimen (S) = (B) - (A)

Weight of post-bake specimen (P) = (D) - (A)

Total Weight Loss (L) = (S) - (P)

Procedure B

Weight of original specimen (S) = (F) - (G)

Weight of post-bake specimen (P) = (D) - (A)

Total Weight Loss (L) = (S) - (P)

Procedure A and Procedure B

Weight Percent Volatile Matter Content

(V) = [(Total weight loss)/(Initial specimen weight)] x
100

= [(L)/(S)] x 100

4.2 The weight volatile matter content of a material is the average of the weight volatile matter content of each specimen of that material. For example, if four specimens of a material were tested, then the weight

percent volatile matter content for that material is:

$$V = [V1 + V2 + V3 + V4]/4$$

Where:

V_i = the weight percent volatile matter content of specimen i of the material.

4.3 The weight percent solids content of the material is calculated from the weight percent volatile content of the material.

$$\text{Weight Percent Solids Content (N)} = 100 - (V)$$

Calculation Notes

1 - The weight loss during curing and the weight loss during baking may be calculated separately. These values may be useful for identifying sources of variation in the results obtained for different specimens of the same material.

2 - For both Procedure A and Procedure B, the weight loss during curing is $(S) - [(C) - (A)]$ and the weight loss during baking is $(C) - (D)$.